# EFFECTIVENESS OF BREAST CRAWL TECHNIQUE UPON INITIATION AND ESTABLISHMENT OF BREAST FEEDING IN NEWBORNS

**BY**

**A.BUELAH**

**A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OFMASTER OF SCIENCE IN NURSING**

**APRIL 2013**

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**Approved by the dissertation committee on** : _____

**Clinical Guide** :_____

**Dr. LathaVenkatesan**
M.Sc (N).,M.Phil (N)., Ph.D (N).,
Principal cum Professor,
Apollo College of Nursing,
Chennai – 600095.

**Research Guide** :_____

**Prof. Lizy Sonia**
M.Sc (N)., Ph.D (N).,
Vice principal,
Apollo College of Nursing,
Chennai – 600095.

**Medical Guide** :_____

**Dr.VishnuVandana,** DNB**.,**
Consultant, Obstetrician and Gynaecologist
Apollo Hospitals,
Chennai – 600006.

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## DECLARATION

I hereby declare that the present dissertation entitled **"Effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns"** is the outcome of the original research work undertaken and carried out by me under the guidance of **Dr. LathaVenkatesan,** M.Sc (N)., M.Phil (N)., Ph.D (N)., Principal, cum professor, Apollo College of Nursing, Chennai and **Prof. Lizy Sonia** M.Sc (N)., Ph.D(N)., Vice principal, Apollo College of Nursing, Chennai . I also declare that the material of this has not found in any way, the basis for the award of any degree or diploma in this university or any other university.

**M.Sc (N)IInd year**

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## SYNOPSIS

An Experimental study was conducted to assess the Effectiveness of Breast Crawl technique upon Initiation and Establishment of Breast feeding in Newborns at Andhra Mahila Sabha Hospital Chennai.

**The objectives of the study**

1. To assess the knowledge level regarding breast crawl technique before and after initiation and establishment of breast feeding in control and experimental group of mothers.
2. To assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.
3. To find out the level of satisfaction regarding breast crawl technique in experimental group of mothers.
4. To find out the association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.
5. To find out the association between selected obstetrical variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.

The conceptual frame work was based on Modified Wiedenbach's Helping Art of Clinical Nursing Theory. The variables of the study were breast crawl technique and Initiation and establishment of breast feeding. Null hypotheses were formulated. The level of significance selected was $p < 0.05$. An extensive review was made based on the opinions of the experts.

An experimental study of post-test design was used. The study included 60 newborns who were selected by systematic random sampling technique. The study was conducted at Andhra Mahila Sabha Hospital Chennai.

Demographic variable proforma, Obstetric variable proforma, Modified breast feeding assessment tool, knowledge assessing questionnaire and rating scale on level of satisfaction of breast crawl technique were the various tools used by the researcher. The validity was obtained from various experts and found to be highly reliable. The main study was conducted after the pilot study.

Initiation and establishment of breast feeding was assessed in the control and experimental group of newborns. For the newborns in control group Initiation and establishment of breast feeding was assessed without providing breast crawl technique and for the newborns in experimental group initiation and establishment of breast feeding was assessed using breast crawl technique. The data obtained were analyzed using descriptive and inferential statistics.

**Major findings of the study**

- The study finding reveals that a significant number of mothers were between the age group of 26-30 years (40%, 50%) with family monthly income between 10001-15000 rupees (46.7%, 53.4%) were graduates (40%, 46.6%) majority of the mothers belong to Hindu religion (93.4%, 70%) most of the mothers were unemployed (70%, 73.4%) belong to nuclear family (66.7%, 73.4%) resides in urban area (53.3%,66.7%) in control and experimental group respectively.
- All the mothers went for regular antenatal checkup (100%,100%) majority of the mothers had not developed any medical disorders during pregnancy

(80%,76.6%) most of the mothers had one child (56.6%,46.6%) a significant number of mothers were primi gravid (56.6%,46.6%) none of them used sedatives during labour. All the newborns Apgar score was between 7-10 (100%,100%) majority of the newborns was delivered through normal vaginal delivery (93.3%,96.6%) most of the newborn's birth weight was between 2.5-3 kg (50%,66.6%) with 38-40 weeks of gestational age at birth (66.6%,76.6%) in control and experimental group respectively.

- Most of the newborns in control group without breast crawl technique were able to initiate and established breast feeding only with the help of assistance (66.6%) but in experimental group majority of the newborns actively initiated and established breast feeding independently (90%) using breast crawl technique.
- Mean and standard deviation of initiation and establishment of breast feeding using breast crawl technique was higher in experimental group (M=7.8, SD=0.88) when compared with the initiation and establishment of breast feeding without providing breast crawl technique in control group (M=5.4, SD=1.78) . This was statistically proven at $p < 0.05$ level of confidence hence the null hypothesis $H_{01}$ was rejected.
- Majority of the mothers in experimental group (93.3%) strongly agreed that breast crawl technique is an effective method for initiation and establishment of breast feeding and none of them were disagreed towards the intervention.
- The study findings reveal that there was a significant association between selected demographic variable like occupation and the initiation and establishment of breast feeding in newborns ($\chi^2$=3.96, df=1) $p < 0.05$ in control group but no association was found with other demographic variables like age,

educational status, religion, monthly family income, type of family, area of residence. Hence the null hypothesis $H_{02}$ was partially rejected with regard to occupation.

- It was found that there was no association between selected obstetric variables and initiation and establishment of breast feeding in newborns in control group but in experimental group a significant association was found between selected obstetric variable like medical disorders during pregnancy and initiation and establishment of breast feeding in newborns ($\chi^2$=9.35, df=1) $p < 0.01$ and no association was found between other obstetric variables like gravida, parity, type of delivery, sex of baby, birth weight of baby, gestational weeks at birth, Apgar score and sedatives used during labour in control and experimental group of newborns hence the null hypothesis $H_{03}$ was partially rejected with regard to medical disorders during pregnancy.
- The above findings reveal that breast crawl technique used by the researcher for initiation and establishment of breast feeding was found to be effective.

**Recommendations**

- The same study can be conducted with large number of samples
- The same study can be conducted at different settings
- The same study can be conducted as a pre experimental study
- The same study can be conducted as a comparative study in urban and rural setting
- Breast crawl technique could be incorporated as one of the nursing procedure

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# CHAPTER I

# INTRODUCTION

## Background of the Study

"***Breast feeding is mother's gift***

***to herself, her baby***

***and the earth"***

***-Pamela***

It is said that God couldn't be everywhere at the same time, so he created mothers. Mother in one word has so much meaning, giving birth isn't easy. From the time she conceives to the time she delivers the mother has to go through the ups and downs of pregnancy. There is a big change in the various aspects of her life both in physical and mental level. Her diet, her lifestyle and her daily routine all undergo a change. She goes through a range of emotions there's pain yet joy, there's anxiety yet excitement, there's stress yet hope, all in the anticipation of bringing a new life into this world.

A newborn is every mother's masterpiece and she strives to help them with her commitment and trust. After attaining the maternal role her main job is taking care of newborn by providing them with warmth, love, comfort and nutrition. Nutrition is a key factor for preserving and promoting health throughout the life cycle. Until birth the nutritional need of the fetus is met through the placental circulation after birth there is a change in the source and mechanism of nourishment. The newborn must take food orally, digest it and assimilate it.

According to UNICEF's state of world's children report (2011), every year nearly 136 million babies are born worldwide and only 32.6% of them are breastfed within 1 hour of birth. In India 41% of babies are breastfed within 1 hour of birth. In Tamil nadu it is about 58.8%. Initiating breast feeding within 1 hour of birth was one of the ten steps to successful breast feeding.

Breast feeding is the first step to lifelong health. Breast milk refers to the milk produced by human mothers to feed her baby. It provides the primary source of nutrition for newborns. Colostrum is the first milk produced by the breast during pregnancy, it is full of antibodies and immunoglobulin's which protects the newborns as they come into our world of bacteria and viruses. After meeting the fundamental needs like establishing breathing and maintenance of body temperature the subsequent efforts in the care of newborn babies should be directed towards the provision of breast milk through breast feeding.

WHO, UNICEF along with the scientific community strongly recommends initiation of breast feeding within half an hour of birth. Initiation of breast feeding withinthe first hour of birth is the first and most vital step towards reducing infant and under 5 mortality rates. In developing countries, early initiation of breast feeding within 1 hour of life could save as many as 1.45 million lives every year by reducing deaths mainly due to diarrhoea and lower respiratory tract infection. Delayed initiation of breast feeding increases the risk of neonatal mortality.

Breast crawl is the nature's miraculous way of initiating the breast feeding. Every newborn when placed on the mother's abdomen soon after delivery has the ability

to find its mother’s breast all on its own and decide when to take the first breastfeed this is called as breast crawl. Breast crawl was originally described by a Swedish midwife Ann Marie Widstrom and her team from Karolinska institution in the year 1987.Breast crawl was known for years but not practiced as its potential was not so for recognized and explored. It was later pioneered by Marshall Klaus and Fanaroff who were inspired by this technique. The term breast crawl was first used by Klaus (1998), Mumbai based Prashantgangal, mother support and training coordinator of the breastfeeding promotion network of India was the one who tried breast crawl for the first time in India.

Righard and Alade in the year 1990 conducted a study on effects of delivery room practices on early initiation of breast feeding revealed that the newborns placed over the mother's abdomen initiated sucking within 50 minutes than the newborns who are not in contact with their mothers.

Christenson in the year 1992 conducted a study to compare temperatures of newbornswho were kept in skin-to-skin contact with their mothers in breast crawl position with those who were kept in cots in the first few hours after birth. They found that the former had better body and skin temperature, higher blood glucose level and rapid recovery from transient acidosis.

Many health personnel in maternity services are probably not aware of implementing the recommendation of Baby Friendly Hospital Initiative to initiate breastfeeding within an hour of birth. After delivering the baby the nurse midwife will be busy in carrying out the routines and procedures in the labour ward and fails to initiate the breast feeding, awareness about breast crawl is also lacking among the nurse

midwives as a result, the initiation of breastfeeding is often delayed which places the newborns at the risk of increase in mortality and morbidity. Skin-to skin contact immediately after delivery will helps in the promotion of early initiation of breast feeding which wouldsave 1.45 million lives of newborns. Thus the investigator was motivated to initiate the breast feeding using breast crawl technique which is safe and can be easily practiced by the health personnel.

## Need for the study

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infant's. Newborns have sucking reflex that enables them to suck and swallow breast milk. It is recommended that mothers should breastfed their infants for six months or more, without the addition of infant formula or solid food. Human milk is species specific, the nutrients in breast milk are bacteriologically safe, always fresh, ideally balanced and more easily absorbed. Breast feeding is a natural human activity, difficulty are not uncommon.

According to the report published by UNICEF in the year 2009 only 39% of the infants around the world is provided with exclusive breastfeeding. In India survey conducted since 2006-2010 shows that only 46% of infants were exclusively breast fed and in Tamil Nadu only 22% of the infants were provided with exclusive breastfeeding for the first six months of life.

UNICEF, the World Health Organization, and many national government health agencies recommended that babies should be breastfed exclusively for the first six months of life. Studies have shown that breastfed babies are less likely to suffer from

serious illnesses, including gastroenteritis, asthma, eczema, respiratory and ear infections. There are benefits for mothers too, women who breastfed their infants have a lower risk of developing breast cancer, ovarian cancer and hip fractures in later life. The BFHI aims to increase the number of babies who were exclusively breastfed worldwide.

Kangaroo Mother Care (KMC) is a special way of caring low birth weight babies. It fosters their health and well being by promoting effective thermal control, breastfeeding, infection prevention and bonding. In Kangaroo Mother Care, the baby is continuously kept in skin-to-skin contact with the mother and breastfed exclusively to the utmost extent, Kangaroo Mother Care is initiated in the hospital and continued at home. Skin-to-skin contact promotes lactation and facilitates the feeding interaction and bonding. Similarly rooming in also improves the breast feeding.

The World Health organization (WHO), the American Academy of Pediatrics (AAP), the American College of Obstetricians and Gynecologists (ACOG), and the United States Preventive Services Task Force all recommended breastfeeding for the first six months of age. According to a new policy statement from the American Academy of Pediatrics (AAP), new mothers should breastfeed their babies for longer period of time as it providesconsiderable health benefits to both mother and baby.

In the year 2010 Cotto conducted a quasi randomized trial to assess the effectiveness of rooming-in for the initiation of breast feeding .Sixty females and their newborns were selected by the simple random sampling method. Breast feeding in the hospital was reported by 54%. Rooming-in was practiced by 70% among them 30% of the babies started breast feeding during the first 6 hours as compared to none of those

roomed in. The researcher concluded that rooming-in increases the initiation of breast feeding.

Yasodha (2010) conducted an experimental study on breast crawl technique upon initiation of breast feeding.The result showed that 68% of newborns were actively initiated breast feeding with breast crawl technique by their own. 23% of them needed assistance to initiate breast feeding and only 9% failed to initiate breast feeding with breast crawl technique.

Globally initiation of breastfeeding within one hour of life saves one million infants it also prevents diarrhoea and other respiratory tract infection. Thus it becomes the responsibility of the nurse midwife to initiate breast feeding immediately after delivery. The researcher observed in the clinical area less attention was paid for the initiation of breast feeding, there is a gap between what we know to be effective and what we actually practice thus the researcher was interested to conduct an experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns.

## Statement of the Problem

An Experimental Study to Assess the Effectiveness of Breast Crawl Technique Upon Initiation and Establishment of Breast Feeding in Newborns at Selected Hospital Chennai.

## Objectives of the Study

1. To assess the knowledge level regarding breast crawl technique before and after initiation and establishment of breast feeding in control and experimental group of mothers.
2. To assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.
3. To find out the satisfaction level regarding breast crawl technique upon initiation and establishment of breast feeding inexperimental group of mothers.
4. To find out the association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.
5. To find out the association between selected obstetrical variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.

## Operational Definitions

**Effectiveness**

In this study effectiveness refers to the outcome of the breast crawl technique as measured in terms of the initiation of breast feeding among newborns with or without breast crawl technique using breast feeding assessment tool to assess the Latch on, length of time before latch on, Suckling, Audible swallowing and Mothers comfort.

**Breast crawl technique:**

In this study it refers every newborn immediately after birth are dried and laid on the mother's abdomen has the ability to find their mothers breast all on their own and to decide when to take the first breast feed, this is called as breast crawl.

**Initiation of breast feeding**

It is a process by which breast feeding is established by newborns immediately after delivery i.e. within half an hour of birth.

**Establishment of breast feeding**

Inthis study establishment refers to latching of mother’s breast with newborns mouth.

**Newborn**

In this study newborn refers to just born babies who are delivered through normal vaginal delivery at 38 to 42 weeks of gestation.

**Assumptions**

- Breast feeding should be initiated within half an hour of birth.
- Breast milk is human specific.
- Breast crawl technique is safe.
- Breast crawl technique results in the initiation of breast feeding among newborns within half an hour of birth.
- Breast crawl technique promotes bonding.
- Breast crawl technique provides warmth to newborn.

## Null Hypotheses

**$H_{01}$** There will be no significant difference in effectiveness of breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.

**$H_{02}$** There will be no significant association between selected demographic variables and breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.

**$H_{03}$** There will be no significant association between selected obstetrical variables and breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.

## Delimitations

The study is limited to

- Selected full term newborns delivered through normal and assisted vaginal delivery
- Newborns immediately after birth.
- Newborns delivered in selected maternity center

## Conceptual Framework

The conceptual framework for a particular study is the abstract, logical structure that enables the researcher to link the findings to nursing body of knowledge. It is developed from an existing theory of interest and proposing relationship among them. The model gives direction for planning research design, data collection and interpretation of findings. (Polit, 2004).

The present study aimed to evaluate the effectiveness of breast crawl technique upon the initiation and establishment of breast feeding. The frame work of the study is based on Modified Wiedenbach's helping art of clinical nursing theory.

Ernestine Wiedenbach helping art of clinical nursing theory (1964) describes a derived situation and ways to attain it.

This theory has three factors

1. Central purpose
2. Prescription
3. Realities

**Central purpose**

It refers to what the nurse midwife wants to accomplish. It is the overall goal towards which a nurse midwife strives. In this study it refers to the intervention planned by the investigator who will institute it, if the neonates fulfill the sampling criteria.

**Prescription**

It specifies the nature of nursing action that will fulfill the nurse's central purpose. In this study it refers to the initiation and establishment of breast feeding immediately after delivery.

**Realities**

It refers to the physical, physiological emotional and spiritual factors that come into play in a situation involving nursing action. The five realities identified by the Wiedenbach's are the agent, recipient, goal, means, activities, and the framework.

In this study it refers to the following

**Agent** - Investigator

**Recipient** - Newborns immediately after delivery

**Goal** - To assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding.

**Means** - Selected interventions on the experimental group ie, Breast crawl technique

**Framework** - Intervention done in the delivery room of Andhra MahilaSabha.

The conceptualization of nursing practice according to this theory consist of 3 steps

Step I – Identifying the need for help

Step II – Ministering the needed help

Step III – Validating that the need for help was met.

**Step I: Identifying the need for help**

This step involved determining the need for help. The study assumed that there was a relationship between the intervention done by the nurse midwife and the initiation and establishment of breast feeding. The nurse researcher identified that the newborns need was to initiate breast feeding soon after delivery. Newborns were identified based on the inclusion and exclusion criteria. The systematic random sampling technique was used to assign the newborns in the control and experimental group. Initiation and establishment of breast feeding was the planned assessment in both the groups.

**Step II: Ministering the needed help**

In this study the nurse researcher after getting consent from the selected newborn's mother implemented the intervention of breast crawl in experimental group and to the control group no intervention was provided.

**Step III : Validating that the need for help was met**

In this study, the validation of the accomplishment of intervention was made by the assessment of the initiation and establishment of breast feeding in the control and experimental group of newborns. In the control group latch on, length of time before latch on, sucking, audible swallowing, mother’s evaluation upon initiation and establishment of breast feeding were assessed. In the experimental group latch on, length of time before latch on, sucking, audible swallowing, mother’s evaluation upon initiation and establishment of breast feeding along with the level of satisfaction of mothers were assessed.

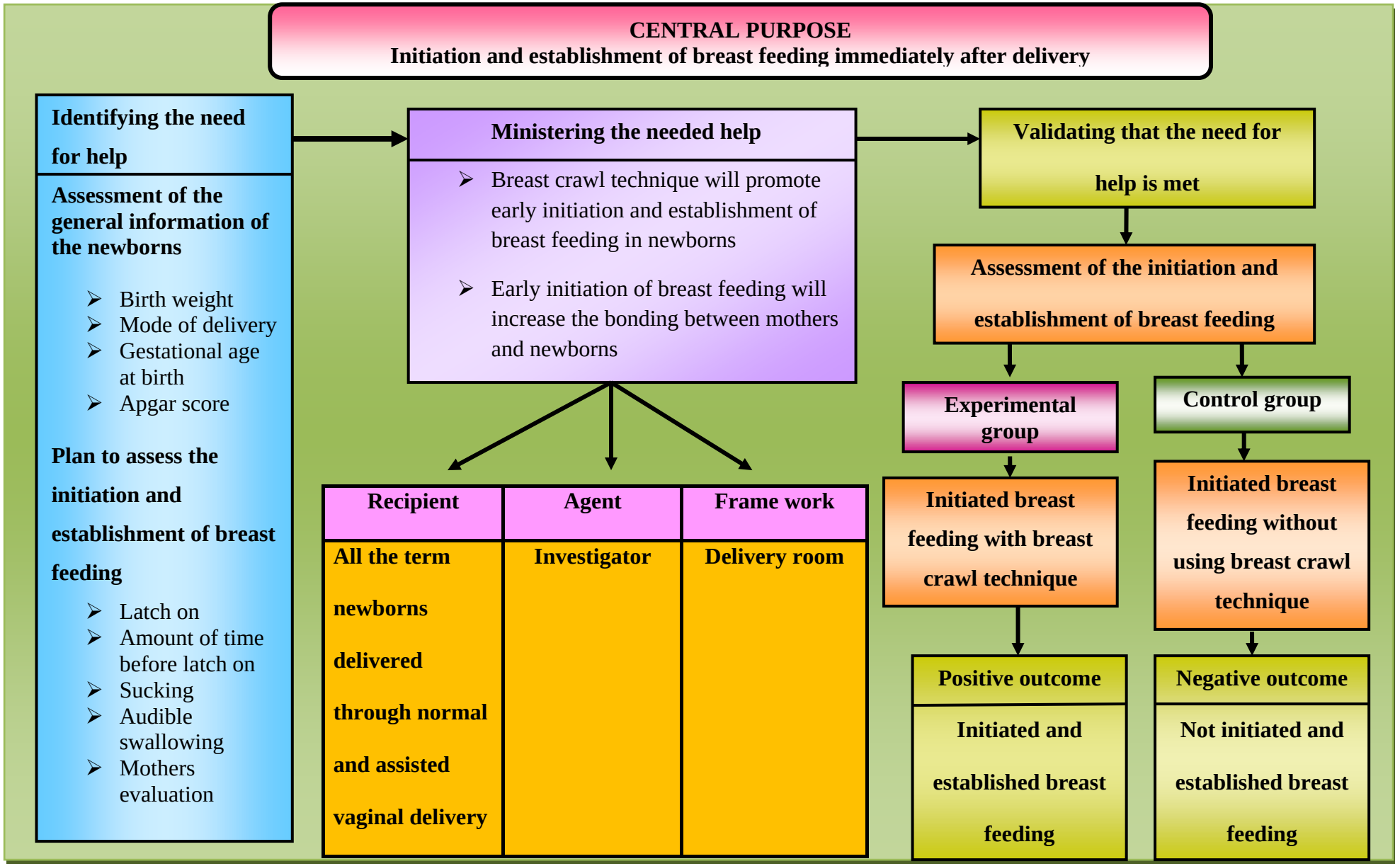


**Fig. 1 Conceptual Frame Work Based on Modified Wiedenbach's Helping Art of Clinical Nursing Theory**

## Projected outcome

The study will help to improve the newborns outcome in terms of initiation and establishment of breast feeding and maternal outcome in terms of satisfaction.

## Summary

This chapter dealt with the background of the study, need for the study, statement of the problem, objectives of the study, operational definitions, assumptions, null hypotheses, delimitations and conceptual framework.

## Organization of the Report

Further aspects of the study are presented in the following chapters.

**In chapter II** **:**consists of review of literature.

**In chapter III** **:**consists of research methodology which includes research approach, research design, setting, population, sample, sampling technique, tools used in the study, data collection procedure and plan for data analysis.

**In chapter IV** **:**deals with analysis and interpretation of data done through descriptive and inferential statistics.

**In chapter V** **:**comprises of discussion.

**In chapter VI** **:**consists of summary, conclusion, implications, recommendations and limitations.

# CHAPTER II

# REVIEW OF LITERATURE

Review of literature is an essential component of the research process.It is a critical examination of publications related to a topic of interest. Review of literature helps to plan and conduct the study in a systematic manner.

This chapter deals with the review of published and unpublished research studies from related material for the present study. The review helped the investigator to develop an insight in the problem area (Polit and Hungler).

In the present study literature was reviewed and organized under four broad headings.

- Studies related to breast feeding
- Studies related to initiation of breast feeding
- Studies related to establishment of breast feeding
- Studies related to breast crawl technique

## Studies related to Breast Feeding

Agunbiade in the year 2012 conducted aconcurrent mixed study on constraints to exclusive breast feeding practices among breast feeding mothers in Nigeria. 200 breast feeding mothers were selected using random sampling techniques, The result showed that only a small proportion (19%) of the nursing mothers practiced exclusive breast feeding. Findings showed that the major constraints to breast feeding is the maternal health problems(26%) fear of babies addiction to breast milk (26%) pressure

from mother-in-law(25%) and the need to return to work (24%).The researcher concluded that the breast feeding mothers are facing multiple challenges as they strive to practice exclusive breast feeding.

A cohort study on effectiveness of colostrum upon mental development among children was conducted in Spain in the year 2011 by Monica. A total of 504 children was recruited using simple random sampling method .The result showed that 95% of children who were breast feed for first 14 months showed a positive mental development compared with the children who were breast feed for less than six months of age. The researcher concluded that partially unsaturated fatty acidin colostrums had significantly increased the mental scores of children who were breast feed for longer duration.

In Greece Antony, et al. (2010).conducted a prospective study upon Protective effect of exclusive breast feeding against infections during infancy. 926 infants were selectedusing simple random sampling method and successfully followed up for 12 months. The result showed that infants who were exclusively breast feed for 6 months presented with fewer infectious episodes of ARI (95%), thrush (95%) than the infants who were partially breast feed or non breast feed. The researcher concluded that prolonged exclusive breast feeding was associated with fewer infectious episodes and fewer admissions to hospital in the first year of life.

Factors affecting intention to breast feeding among mothers in Syria and Jordhan, A cross sectional study was conducted by Nemeh, et al (2010). Using a random sampling technique1200 mothers were selected for the study. The findings of

the study showed that the intention to breastfeed was reported in 77.2% of Syrian and 76.2% of Jordanian women .There was no significant difference in intention to breast feed between Syrian women and Jordanian women .The researcher concluded that the mothers in both countries have positive attitude towards breast feeding.

In the year 2010 a study on knowledge prevalence and predictions of exclusive breast feeding among women in Western Tanzania was conducted by Tiras. 402 women were selected randomly for the study. The result showed that the women who were delivered in Tanzania municipality has a higher knowledge related to exclusive breast feeding (86%) compared to the women who delivered in higher health care facilities(58%) and women who had no complaints like breast engorgement, cracked nipples were more likely to exclusively breast feed compared to the women who have problems in their breast. The researcher concluded that the prevalence of breast feeding in Tanzania is higher.

Andrej, et al. (2008).conducted a cross sectional study among Swedish children regarding infant feeding, socio demographic determinants and associations with adiposity in childhood and adolescence. 1137 children who were between 9 and 15 years were selected by simple random sampling technique. The result showed that 95% of fifteen years old children who were breast feed for less than 2 months had 1.2kg/$m^2$ higher BMI, 3.2 cm higher waist circumference and 10.6 mm higher skin fold measurements. The researcher concluded that lesser duration of breast feeding increases the risk for obesity.

A cohort study was conducted by Mihrshahi, et al.(2008). inChittagong to find out the association between infant feeding patterns and diarrhoeal and respiratory illness in infants. 351 mothers and their infants were recruited for the study and prevalence of diarrhoea and ARI were recorded during monthly home visits. The result showed that the infants who were exclusively breast fed for six months had a significantly lower prevalence of diarrhea (95%) and respiratory infection (95%) than infants who were not exclusively breast fed .The researcher suggested that exclusive breast feeding can reduce the morbidity and morbidity related to infectious diseases among the infants.

**Studies related to Initiation of Breast Feeding**

In Somaliland a qualitative study was conducted upon initiation of breast feeding among the women who receives traditional birthing by Blackburg, et al.(2011). Ten women, 5 family members, six health care providers and five birth companions were selected using purposive sampling technique. The result showed that due to cultural beliefs and practices traditional birthing support was not always indicative for early initiation of breast feeding. The researcher concluded thatthe presence of a labour companion is a low cost preventive intervention for early initiation of breast feeding.

A quasi randomized trial was conducted in spain by Cotto, et al.(2010). to assess the effectiveness of rooming-in for the initiation of breast feeding. Sixty mothers were selected by the simple random sampling method. Rooming-in was practiced by 70% of mothers among them 30% of the babies initiatedbreast feeding within 6 hours comparing with the babies who were separated from their mothers.The researcher concluded that rooming-in facilitates the initiation of breast feeding soon after delivery.

In the year 2011 a cross sectional survey was conducted in Western Australia upon prevalence of breast feeding initiation, and early cessation patterns by Hauck, et al. (2011). Data were obtained from 2,669 women out of them 93% initiated breast feeding within one hour after delivery. 73.5% multiparous women and (65.2%) of primiparous practiced exclusive breast feeding among them 49.2% ceased breast feeding by 9 weeks 71.1% of multiparous women ceased breast feeding before 3 weeks .The researcher concluded that (60%) target of breast feeding is not achieved in western australia.

Association of maternal obesity upon initiation of breast feedinga prospective cohort study was conducted in the United states by Mehta, et al.(2011). Usingsimple random sampling method688 postpartum women were selected.The findings showed that women whose BMI > 26 had almost four times the risk of not initiating breast feeding compared with underweight or normal weight women (BMI 26 $kg/m^2$). The researcher concluded that women who started pregnancy either overweight or obese were more likely to not initiate breast feeding.

Turk, et al.(2010).conducted a study to investigate the maternal gestational, and neonatal features associated with the early initiation of breast feeding in Turkey. A total of 577 mothers were selected using simple random sampling technique. The result showed that 35.2% initiated breast feeding with in the first hour of birth while 72.8% of them initiated breast feeding after two hours of birth. The researcher concluded that the prevention of premature birth, limitation of cesarean section, management of maternal anemia are important for early initiation of breast feeding.

A community based randomized trial upon time of initiation of breast feeding and mortality risk among newborns in southern Nepal was conducted by Luke, et al.(2008). The random sampling technique was used to select 22,838 newborns, among 22,838 newborns 3.4% of newborns initiated breast feeding within one hour of birth and 56.6% initiated breast feeding within 24 hours of birth. The researcher concluded that with increasing delay in breast feeding initiation mortality was higher ($\geq$24 hours) compared with early (< 24 hours) initiation (p=0.03).

**Studies related to Establishment of Breast Feeding**

Carolin, et al. (2010), conducted a descriptive study in mothers with major difficulties in establishment of lactationinQubec city 86 breast feeding mothers were selected by random sampling method a semi structured interview was conducted. The result showed that painful nipples, painful breast, low milk supply, latching difficulties were the most frequent problems with establishment of breast feeding .The researcher concluded that the breast feeding clinics have a critical role to play in improving the breast feeding experience of women with major difficulties.

A descriptive study was conducted by Thompson, et al.(2009).to find out the impact of postpartum haemorrhage upon initiation and establishment of breast feeding in Australia. 206 participants were selected by the simple random sampling method. The result showed that among women with a significant postpartum haemorrhage, 63% fully breast feed their babies from birth where as 70% of women with postpartum haemorrhage breast feed fully in the first postpartum week, and 50% didn't breast feed fully. The study concluded that delayed early contact between mother and baby

following a complicated birth like postpartum haemorrhageimpactthemothers ability to successful breast feeding.

In St.Petersburg a randomized trial was conducted by Ksenia, et al.(2007).upon the early lactation performance in primiparous and multiparous women in relation to different maternity home practices. 153 mother infant pairs were selected by using a random sampling method and were divided into four groups, group I infants (n=37) was provided with skin to skin contact in the delivery ward while group II (n=40) were dressed and placed in their mothers arms group III infants (n=38) were placed in the delivery cot with no rooming inGroup IV (n=38) were kept in the delivery ward nursery and later roomed in. Episodes of early suckling were noted. The result showed that infants in group I established breast feeding effectively when compared with infants in group II, III and IV.

Impact of epidural analgesia upon establishment of breast feedinga prospective cohort study was conductedbySiranda, et al.(2006).By using random sampling method1280 women aged≥16 years were selected. The result showed that in the first week of postpartum 93% of women were either fully breast feed or partially breast feed their baby and 60% were continued breast feed for 24 weeks. Women who had epidural analgesia being more likely to stop breast feeding earlier than women who used non pharmacological methods of pain relief (95%). The researcher concluded that the addition of fentanyl to epidural analgesia during child birth results in difficulty in establishing breast feeding.

In the year 2006 Sue conducted a study on the effects of analgesia used in labour upon establishment and maintenance of breast feeding. 554 mothers who took

analgesics during labour were selected by random sampling method. The result showed that both pethidine and epidural analgesia can increase the likelihood of breast feeding cessation. 72% of mothers who had no pharmacological analgesia were found to breast feed their infants for 24 weeks when compared with the mothers (53%) who received pethidine and (52%) who received epidural containing fentanyl and bupivacaine.The researcher concluded that the women receiving high dose of analgesics might be offered extra support to establish and maintain breast feeding.

Sujeeva in the year 2006 conducted a prospective descriptive study upon the impact of nipple abnormalities in successful establishment of breast feeding in Srilanka. 956 mothers were recruited for the study among them 768 had normal breast and 188 had abnormalities in the breast.The result showed that(72.5%) established successful lactation. 80% had flat nipples among them 44% of nipples were corrected with exercise and established lactation. 9.8% of women with breast or nipple abnormalities failed to establish lactation.

**Studies related to Breast Crawl Technique**

To determine the impact of breast crawl on breast feeding its feasibility and acceptability in the busy labor room a prospective randomized trial was conducted by Girish, et al.(2012). Fifty obstetricians and nurses were selected for the study the feasibility and acceptability was determined by analysis of questionnaires. The result showed that breast crawl results in positive short term breast feeding outcome but the acceptability of breast feeding as a routine in busy labour room found to be difficult.

A Quasi experimental study was conducted in Coimbatore by Yasodain the year 2009, to assess the ability of newborns to breast crawl and to initiate breast feeding. 22 newborns were selected for the study the result showed that 68% of newborns actively initiated breast feeding with breast crawl technique by their own. 23% of them needed assistance to initiate breast feeding with breast crawl. Only 9% of them were not able to initiate breast feeding through breast crawl.

Varendiet, et al.(2001).conducted a study in Sweden to investigate the influence of breast odouronthe physical movements of newborns. 22 newborns were recruited for the study and they are observed during two trials. In the first trial on a warming bed a pad carrying the mothers breast odour was placed 17cm in front of the newborn's nose, in the other trial a clean pad was used. The result showed that most of the newborns moved towards and reached the pad that carriesmothers breast odour than the clean pad. The researcher concluded that the natural breast odourappears to be sufficient to attract and guide newborns to the odour sources.

In the year 1992 Christensson, et al, conducted a study in Sweden he compared the cry between newborns who kept in the breast crawl position with those kept in a cot next to the mother during the first 90 minutes after birth. The newborns in the cot cried for a significantly longer time than the newborns in the breast crawl position during all observation periods the newborns in the breast crawl position had higher blood sugar level and more rapid recovery from transient acidosis at birth as compared to newborns separated.

Richard, et al. in the year 1990 studied about the effect of delivery room practices on early initiation of breast feeding in Malmo. 72 newborns who have born normally were assigned in two groups separated group and contact group. In the separated groups (n=34) the newborn were placed on the mother's abdomen immediately after birth but taken away after 20 minutes for measuring and wrapping after that newborns were replaced again to the mother. In the contact group (n=38) contact between mother and newborn was uninterrupted. The result showed that the newborns in the contact group started to make crawling movements towards the breast about 20 minutes after birth and most newborns sucked at the breast by 50 minutes.

A study to assess the ability of newborn to grasp the nipple within the first hour of life is conducted by Widstrom, et al (1987).inSweden. Totally 21 newborns were selected for the study the result showed that 20 newborns completed breast crawl successfully only one newborn fails to complete breast crawl. The researcher concluded that the newborns completed the breast crawl with spontaneous attachment as it was their instinctive.

## Summary

The above cited studies helped the researcher to gain insight about breast feeding, initiation of breast feeding, establishment of breast feeding and breast crawl technique. The literatures presented here were extracted from 21 primary sources and 5 secondary sources. It helped the researcher to develop tools, collect data, organize and analyze the data.

# CHAPTER III

# RESEARCH METHODOLOGY

The methodology of the research study is defined as the way the data are gathered in order to answer the question and to analyze the research problem. It enables the researcher to project a blue print of the research undertaken. The research methodology involves a systematic procedure by which a researcher had a start from the initial identification of the problem to its final conclusion.

The present study was conducted to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns. The chapter deals with a brief discussion of different steps undertaken by the researcher for the study. It involves research approach, the setting, population, sample and sampling technique, selection of tool, content validity, reliability, pilot study, data collection procedure and plan for data analysis.

## Research Approach

Research approach is the most significant part of any research. The appropriate choice of the research approach depends on the purpose of the research study which was undertaken.

According to Polit and Beck (2008) experimental research is an extremely applied form of research and involves finding out how well a program and practice of policy are working. Its goals are to assess or to evaluate the success of the intervention. In this study the researcher wanted to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns. After reviewingvarious

literatures the researcher found that the true experimental approach was seemed to be the most appropriate approach for the study

## Research Design

A research design incorporates the most important methodological design that a researcher works in conducting a research study(polit and beck 2004)

The research design adopted for this study was post test only design

The research design is represented diagrammatically as follows

**R** – O1

**R** X O1

**R:** Randomization

**O1:** Assessment of initiation and establishment of breast feeding without breast crawl technique

**X:** Breast crawl technique

**O1:** Assessment of initiation and establishment of breastfeeding with breast crawl technique.

## Variables

Variable is an attribute that varies, that is taken on different values (polit, 2010).

### Independent variable

The variable that is believed to cause or influence the dependent variable is called independent variable. In this study breast crawl technique is the independent variable. Breast crawl technique is provided for the newborns immediately after

delivery by placing the newborns over the mother's abdomen to assess the initiation and establishment of breast feeding.

## Dependent variable

The variable hypothesized to depend on or be influenced by independent variable is the dependent variable. Initiation and establishment of breast feeding is the dependent variable in this study. The initiation and establishment of breast feeding is assessed using breast crawl technique.

## Extraneous variables

A variable that confounds the relationship between the independent and dependent variables and that needs to be controlled either in the research design or through statistical procedures is the extraneous variables. Demographic variables and obstetric variables were extraneous variables in this study.

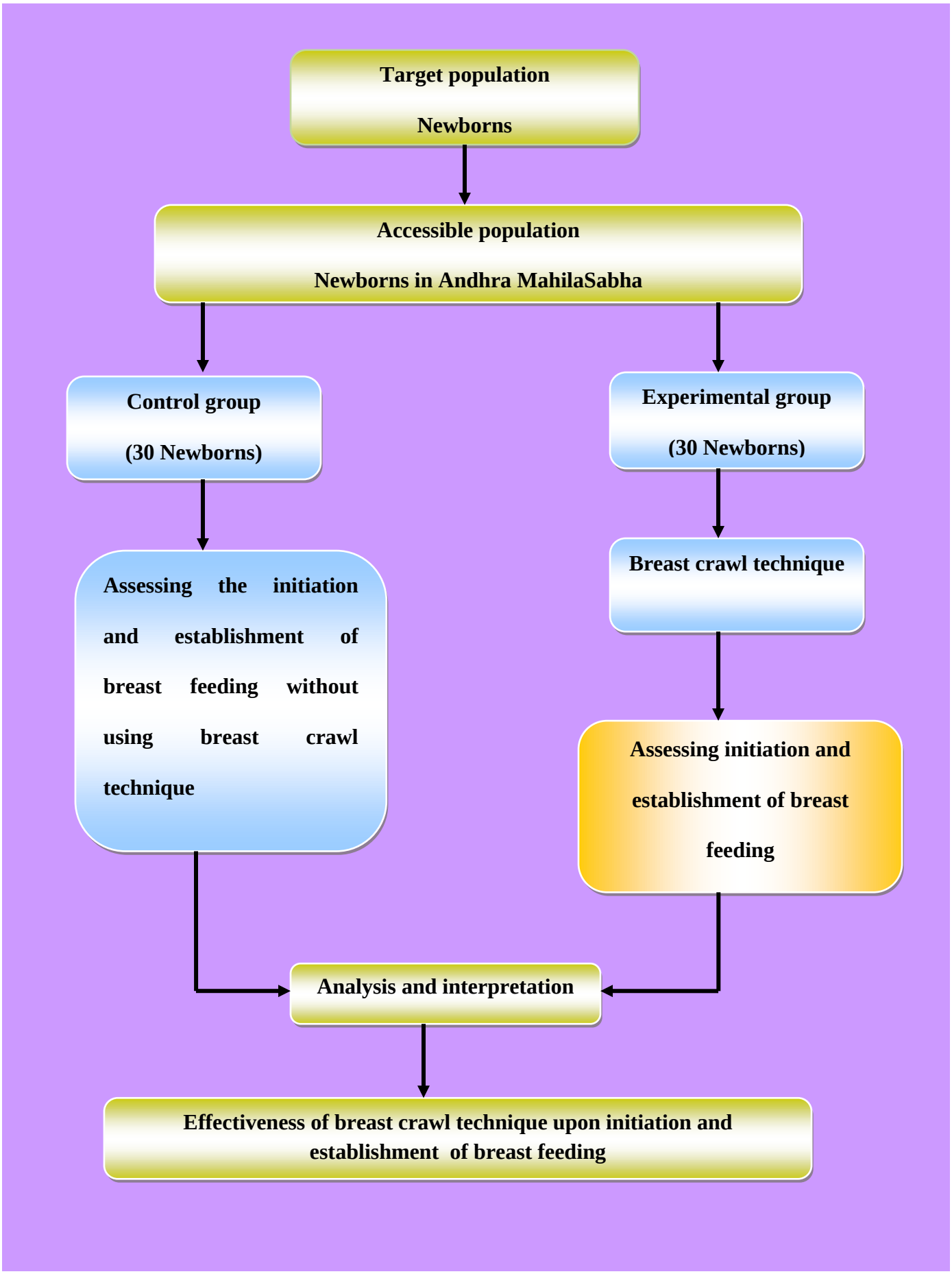


**Fig 2. Schematic Representation of Research Design**

## Research Setting

The study was conducted at Andhra MahilaSabha Hospital located at Adyar which is in the urban area of Chennai. The hospital is 200 bedded, which has labour room with four labour table and equipments like cardio topography machine, warmer, life saving drugs and equipments for Obstetric and Medical Emergencies. On an average 80 – 100 women's undergo normal vaginal delivery every month. The hospital also has postnatal ward, post operative ward, Neonatal Intensive Care Unit, operation theatre, laboratory and other diagnostic facilities like ultrasonography. They also provide Immunization and conducts teaching programmes for the staffs and the patients and do referral to government agencies in need.

## Population

Population is the entire set of individuals or objects having some common characteristics (Polit and Beck, 2010). The target population is the entire population in which a researcher is interested and to which he or she would like to generalize the study results. In this study the target population was all the newborns delivered through normal and assisted vaginal delivery immediately after birth. The accessible population is the aggregate of cases that conform to designated criteria and that are accessible as subjects for a study. In this study the accessible population was all the newborns delivered in Andhra MahilaSabha Chennai.

## Sample

According to Polit and Beck (2010) sample is a subset of population elements. A sample of 60 newborns was selected among which 30 newborns were assigned to the control group and 30 newborns were assigned to the experimental group.

## Sampling Technique

Sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the population can be made (Polit and Beck 2010). Systematic sampling technique was used in this study. The newborns who satisfy the inclusion criteria were assigned to control group and experimental group.

## Sampling Criteria

**Inclusion criteria**

- Newborns delivered in selected maternity center.
- Newborns delivered through normal and assisted vaginal delivery
- Newborns delivered between 38 to 42 weeks of gestation.
- Newborns delivered at the time of data collection.
- Newborns immediately after delivery.

**Exclusion criteria**

- Newborns delivered in government hospitals.
- Newborns delivered through caesarean section.
- Newborns delivered before 37 weeks
- Newborns delivered to the mothers who used pharmacological methods to relieve pain during first stage of labour.
- Mothers of newborn who were not willing to participate in the study.

## Selection and Development of Study Instruments

As the study aimed to evaluate the effectiveness of breast crawl technique the data collection instruments were developed through an extensive review of literature.

Instruments used in this study were Demographic variable proforma, Obstetrical variable proforma, Rating scale on satisfaction of breast crawl technique, Modified breast feeding assessment tool and knowledge assessing questionnaire.

**Demographic variable proforma:**

Demographic variable proforma consist of age in years, educational status, occupation, religion, monthly income, type of family, area of residence.

**Obstetric variable proforma**:

Obstetric variable proforma consist of gravida, parity, antenatal checkup, medical disorders during pregnancy, mode of delivery, sex of newborn, birth weight of newborn, gestational age at birth, apgar score, sedatives used during first stage of labour.

**Modified breast feeding assessment tool:**

Initiation and establishment of breast feeding was assessed by using modified breast feeding assessment tool. The tool was modified by the researcher and the tool consist of parameters such as latch on, length of time before latch on, sucking, audible swallowing, and, mothers evaluation while feeding. The scoring was given based on observation by investigator during the procedure.

Scoring was classified as

| Scoring | Interpretation |
|---|---|
| 0-3 | Not able to initiate and establish breast feeding |
| 4-6 | Able to initiate and establish breast feeding with assistance |
| 7-10 | Actively initiate and establish breast feeding independently |

**Rating scale on level of satisfaction of breast crawl technique:**

This rating scale was designed to assess the level of satisfaction of the mothers regarding breast crawl technique and this is assessed by the researcher at the end of breast crawl technique.

The satisfaction score was classified as follows

| Score | Percentage | Interpretation |
|---|---|---|
| 0-15 | 0-25% | Strongly disagree |
| 16-30 | 26-50% | Disagree |
| 31-45 | 51-75% | Agree |
| 46-60 | 76-100% | Strongly agree |

**Knowledge assessing questionnaire**

These questions were formulated by the researcher to assess the knowledge level of the mothers regarding breast crawl technique.

Questionnaire score was classified as follows

| Score | Percentage | Interpretation |
|---|---|---|
| $\geq$ 23 | $\geq$75% | Adequate knowledge |
| 16 – 22 | 51-74% | Moderately adequate Knowledge |
| $\leq$15 | $\leq$ 50% | Inadequate knowledge |

## Psychometric Properties of the Instruments

**Validity of the instruments**

Validity is the degree to which an instrument measures what it is intended to measure (Polit, 2010).

Content validity of the tool was obtained from seven experts in the field of Obstetrics and Gynaecology. Seven were nursing personnel. The suggestions given by the validators regarding rating scale was made in the final preparation of the tool.

**Reliability of the instruments**

Reliability is the degree of consistence or dependability with which an instrument measures an attribute (Polit 2010). The reliability was found using Karl Pearson's correlation formula.

1. Modified breast feeding assessment tool for newborns – 0.7 (inter rater technique)
2. Rating scale on satisfaction upon breast crawl technique–0.9 (test re test method)

**Pilot Study**

Pilot study is a small scale version or trial run done in preparation for a major study (Polit, 2004). The purpose of the pilot study was to find out the feasibility and practicability of study design.

The pilot study was conducted at Andhra MahilaSabha, Chennai by selecting 10 newborns with 5 newborns in the control group and 5 newborns in the experimental group using systematic random sampling technique in order to assess the methodology and tools. The initiation and establishment of breast feeding in newborns in control and experimental group were assessed using modified breast feeding assessment tool for the newborns in control group assessment was done without providing breast crawl technique and for the newborns in experimental group assessment was done by providing breast crawl technique. Knowledge level regarding breast crawl technique

was assessed for the mothers in both control and experimental group before and after providing breast crawl technique. The level of satisfaction upon breast crawl technique was assessed from the experimental group of mothers after initiating breast feeding using breast crawl technique. After the pilot study, the study was found to be feasible and effective and the study instruments were found to be appropriate.

## Protection of Human Rights

The study was conducted

- After the approval of ethical committee of Apollo hospitals.
- After obtaining written consent from the participants
- With confidentiality throughout the study.

## Data Collection Procedure

Data collection is gathering information about something which the researcher has chosen to explore or investigate (Crookes and Davies 1998).

Protection of human rights was maintained and the data were collected day and night from 25/6/12 to 22/7/12 in Andhra MahilaSabha. 60 participants were selected using a systematic random sampling technique among them 30 newborns were assigned to control group and 30 newborns were assigned to the experimental group and the datawere collected from the mothers of newborn through interviews, medical records and observation.Knowledge level regarding breast crawl technique was assessed for the mothers in control and experimental group before and after breast crawl technique.

In control group the newborns immediately after delivery were initiated breast

feeding without using breast crawl technique and the assessment of breast feeding was done for 10 minutes by observing the latch on, length of time before latch on, suckling, audible swallowing and by asking mothers evaluation with the help of breast feeding assessment tool.

In experimental group the newborns immediately after delivery were dried thoroughly leaving the fingers and breast crawl technique was provided to them by placing them over the mothers abdomen, their nose at the midline of two breast and eyes at the level of the nipplesinorderto initiate and to establish breast feeding. Using breast feeding assessment tool, latch on, length of time before latch on, suckling, audible swallowing and mother's evaluation was assessed for 10 minutes.

The level of satisfaction upon breast crawl technique was assessed for the mothers in experimental group using satisfaction scale after initiating breast feeding.

## Problem Faced During Data Collection

Getting permission from the setting was difficult and few mothers were not willing to take part in the study.

## Plan for Data Analysis

Data analysis is the systematic organization, synthesis of research data and testing of hypotheses using those data (Polit and Beck, 2010).

Analysis was carried out using Descriptive statistics like frequency distribution, percentage, mean, standard deviation and inferential statistics like independent "t"test. The association between the demographic variables and obstetric variables wereanalyzed with the help of chi-square test.

## Summary

This chapter dealt with the research approach, research design, setting, population, sample, sampling technique, sampling criteria, development of study instruments, reliability and validity of the instruments, pilot study, data collection procedure and plan for data analysis.

# CHAPTER – IV

# ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collected on a number of issues from various sources. Statistics is a field of study concerned with techniques or methods of data collection, classification, summarizing, interpretation, drawing inferences, testing of hypothesis, making recommendations etc. (Mahajan 2004).

Data was collected from 60 mothers of newborns at AndraMahilaSabha, Adyar among them 30 were in control group and 30 were in experimental group to determine the effectiveness of breast crawl technique upon initiation and establishment of breast feeding. The data were analyzed according to the objectives and hypothesis of the study.

The data were analyzed, tabulated and interpreted using descriptive and inferential statistics.

**Organisation of the findings**

The findings of the study were organized and presented under the following headings

- Frequency and percentage distribution of demographic variables in the control and experimental group of mothers.
- Frequency and percentage distribution of obstetric variables in the control and experimental group of mothers.
- Frequency and percentage distribution of initiation and establishment of breast feeding measured by modified breast feeding assessment tool.
- Comparing mean and standard deviation of initiation and establishment of breast feeding measured by modified breast feeding assessment tool.

- Frequency and percentage distribution of level of satisfaction of mothers on breast crawl technique.
- Association between the selected demographic variables and initiation and establishment of breastfeeding in newborns in control group without breast crawl technique.
- Association between the selected demographic variables and initiation and establishment of breastfeeding in newborns in experimental group using breast crawl technique.
- Association between the selected obstetric variables and initiation and establishment of breast feeding in newborns in control group without breast crawl technique.
- Association between the selected obstetric variables and initiation and establishment of breast feeding in newborns in experimental group using breast crawl technique.

**Table: 1**

**Frequency and Percentage Distribution of Demographic Variables in the Control and Experimental Group of Mothers**.

| Demographic variables | Control group (n=30) | | Experimental group (n=30) | |
|---|---|---|---|---|
| | n | p | n | p |
| **Age in Years** | | | | |
| ≤ 20 years | 3 | 10 | 2 | 6.7 |
| 21 – 25 years | 12 | 40 | 11 | 36.7 |
| 26 – 30 years | 12 | 40 | 15 | 50 |
| ≥ 31 years | 3 | 10 | 2 | 6.6 |
| **Occupation** | | | | |
| Employed | 9 | 30 | 8 | 26.6 |
| Unemployed | 21 | 70 | 22 | 73.4 |
| **Religion** | | | | |
| Hindu | 28 | 93.4 | 21 | 70 |
| Christian | 2 | 6.6 | 6 | 20 |
| Muslim | - | - | 3 | 10 |
| Others | - | - | - | - |
| **Family Monthly Income (in rupees)** | | | | |
| ≤5000 | - | - | - | - |
| 5001 – 10000 | 11 | 36.7 | 9 | 30 |
| 10001 – 15000 | 14 | 46.7 | 16 | 53.4 |
| ≥ 15001 | 5 | 16.6 | 5 | 16.6 |

Data in the table 1 reveals that majority of the mothers were Hindu (93.4% , 70%) most of them were unemployed (70% , 73.4%) a significant number of mothers were between 26-30 years of age (40% , 50%) were graduates (40% , 46.6%) and their family monthly income was between 10001 - 15001 rupees (46.7%, 53.4%) in control and experimental group respectively.

Figure 3 shows that a significant number of mothers were graduates (40%, 46.6%) and none of the mothers were illiterate in control and experimental group respectively.

Figure 4 reveals that most of the mothers belong to nuclear family (66.7%, 73.4%) and a significant number of mothers belong to joint family (33.3%, 26.6%) in control and experimental group respectively.

Figure 5 shows that most of the mother's resides in urban area (46.7%, 66.7%) and a significant number of mother's resides in semi urban area (53.3%, 33.3%) in control and experimental group respectively.

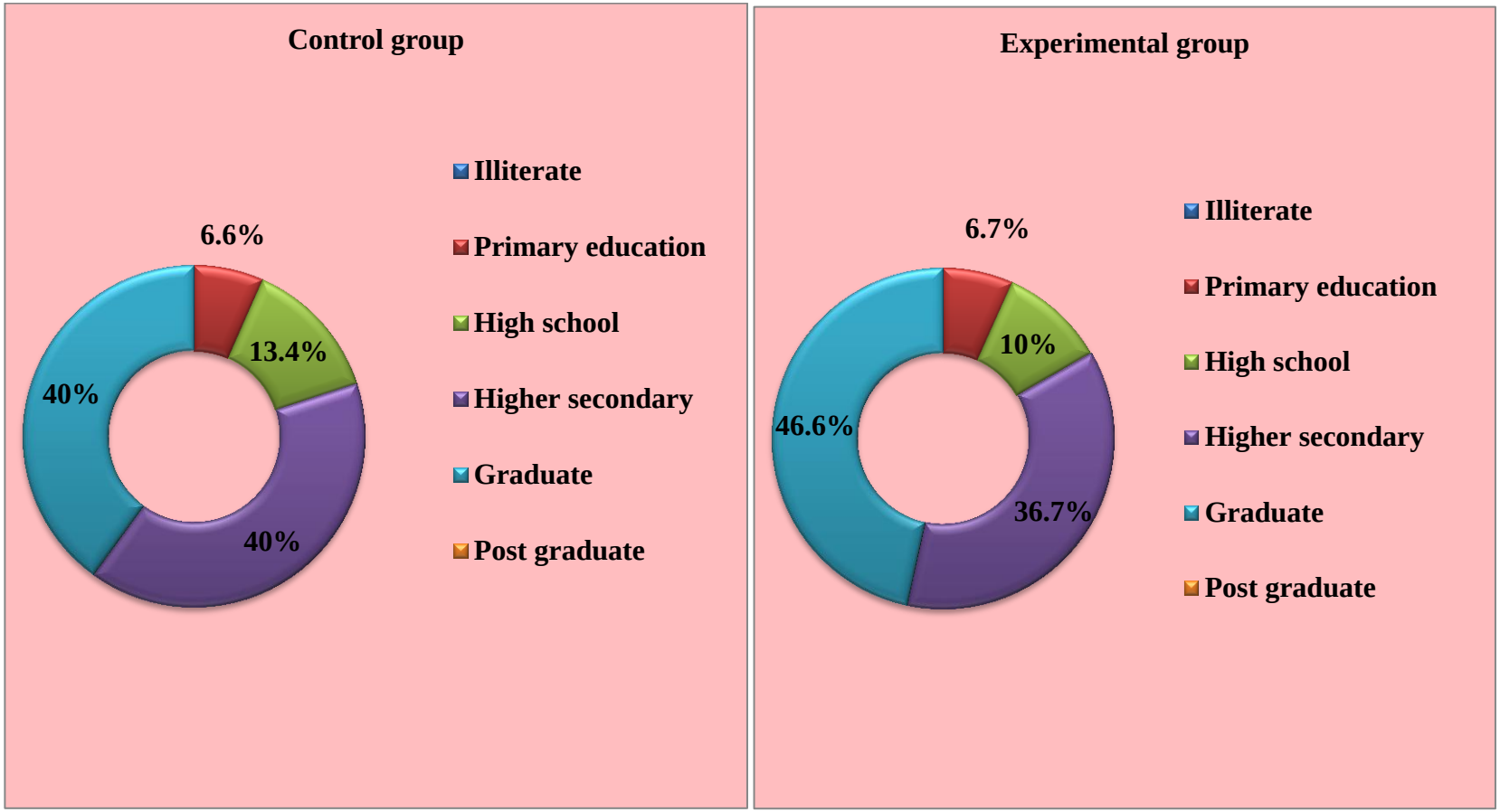


**Fig.3 Percentage Distribution of Educational Status in Control and Experimental Group of Mothers**

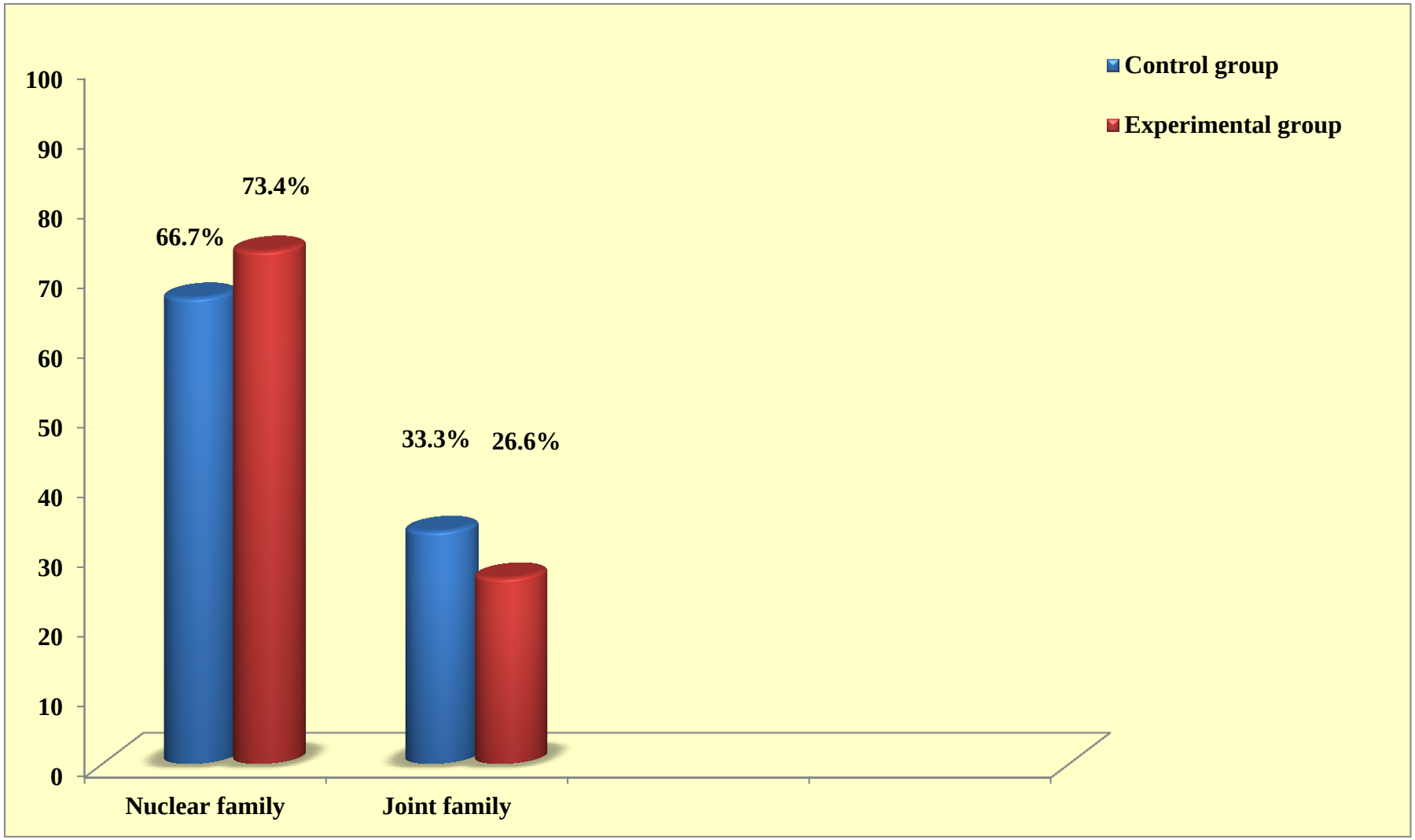


**Fig.4 Percentage Distribution of Type of Family in Control and Experimental group of Mothers**

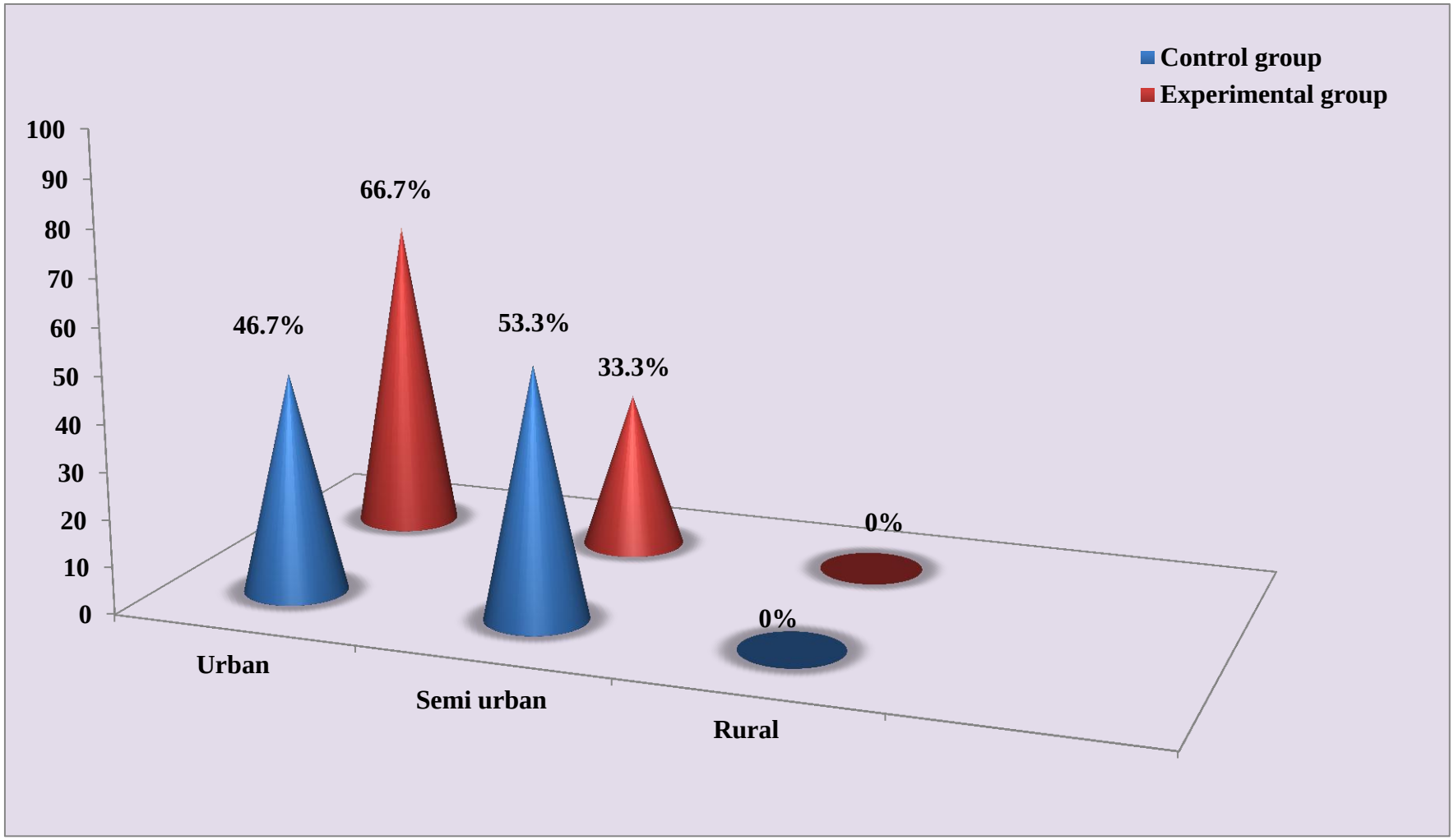


**Fig. 5 Percentage Distribution of Area of Residence in Control and Experimental Group of Mothers**

**Table: 2**

**Frequency and Percentage Distribution of Obstetric Variables in the Control and Experimental Group of Mothers.**

| Obstetric variables | Control group (n=30) | | Experimental group (n=30) | |
|---|---|---|---|---|
| | n | p | n | P |
| **Gravida** | | | | |
| Primi | 17 | 56.6 | 14 | 46.6 |
| Multi | 13 | 43.4 | 16 | 53.4 |
| **Parity** | | | | |
| One | 17 | 56.6 | 14 | 46.6 |
| Two | 13 | 43.3 | 16 | 53.4 |
| More than two | - | - | - | - |
| **Antenatal Checkup** | | | | |
| Regular | 30 | 100 | 30 | 100 |
| Irregular | - | - | - | - |
| Never | - | - | - | - |
| **Sex of Newborn** | | | | |
| Male | 21 | 70 | 15 | 50 |
| Female | 9 | 30 | 15 | 50 |
| **Birth Weight of Newborn** | | | | |
| 2.5 – 3 Kg | 15 | 50 | 20 | 66.6 |
| 3.1 – 3.5 Kg | 15 | 50 | 10 | 33.4 |

| | | | | |
|---|---|---|---|---|
| **Gestational Age at Birth** | | | | |
| 38 – 40 weeks | 20 | 66.6 | 23 | 76.6 |
| 40 – 42 weeks | 10 | 33.4 | 7 | 23.4 |
| **Apgar Score** | | | | |
| Below 3 | - | - | - | - |
| 4 – 6 | - | - | - | - |
| 7 – 10 | 30 | 100 | 30 | 100 |
| **Sedatives Used During Labour** | | | | |
| Inj. Pethidine | - | - | - | - |
| Inj. Tramadol | - | - | - | - |
| Epidural analgesia | - | - | - | - |
| No sedatives | 30 | 100 | 30 | 100 |

Data presented in table 2 depicts that all the mothers went for regular antenatal checkup (100%, 100%) a significant number of mothers were primi gravid (56.6%, 46.6%) had one child (56.6%, 46.6%)none of the mothers used sedatives during labourall the newborns apgar score was between 7-10 (100%, 100%)majority of newborns were male (70%, 50%) most of the newborns were between 38-40 weeks of gestation at birth (66.6%,76.6%) and with 2.5kg - 3kg birth weight (50% 66.6%) in control and experimental group respectively.

Figure 6 represents that majority of the mothers not developed any medical disorders during pregnancy (80%, 76.7%) in control and experimental group respectively.

Figure 7 infers that majority of the newborns were delivered through normal vaginal delivery (93.3%, 96.6%) and a significant number of newborns were delivered through assisted vaginal delivery (6.7%, 3.4%) in control and experimental group respectively.

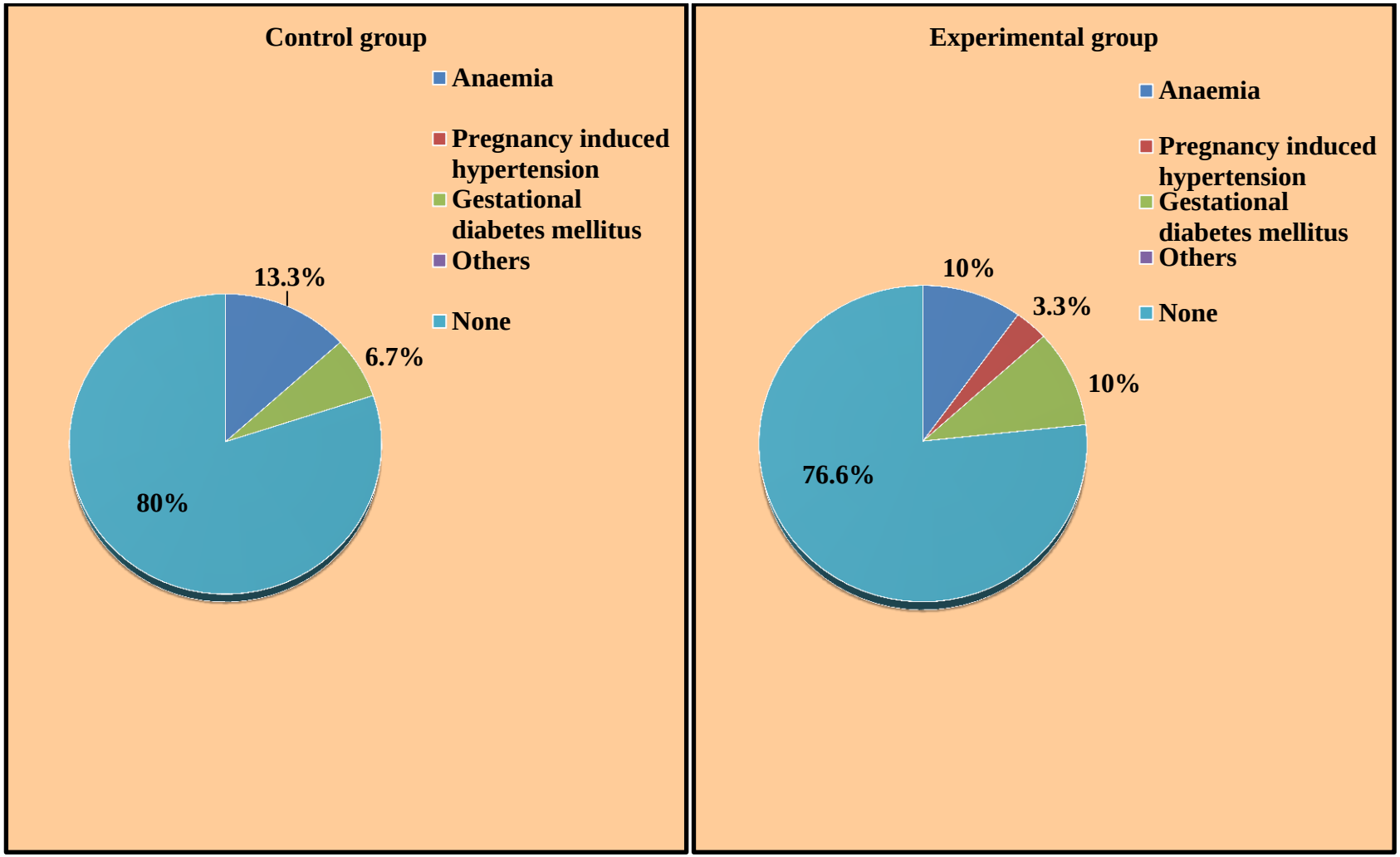


**Fig. 6 Percentage Distribution of Medical Disorders During Pregnancy in Control and Experimental Group of Mothers**

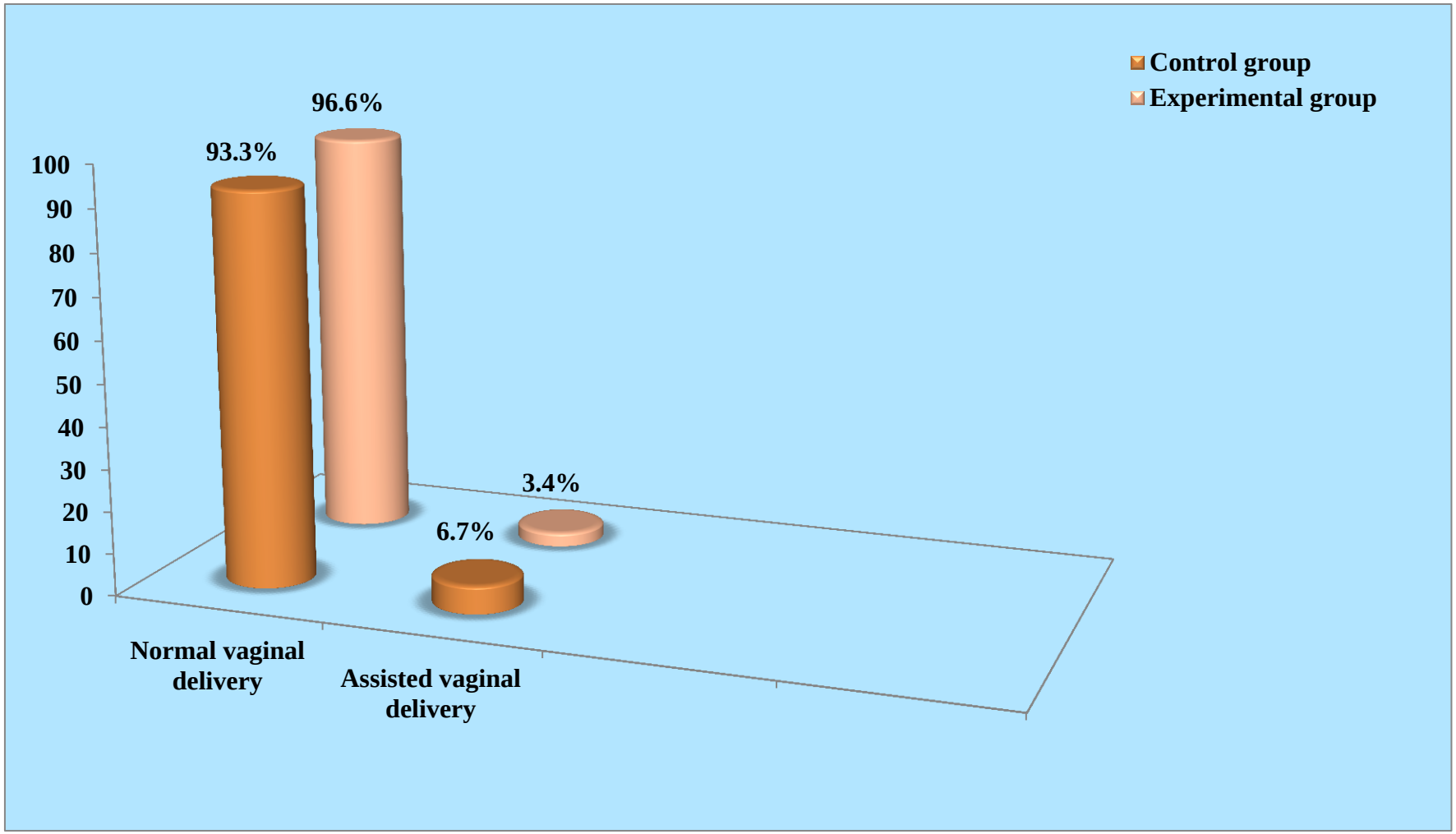


**Fig.7 Percentage Distribution of Mode of Delivery in Control and Experimental Group of Newborns**

**Table: 3**

**Frequency and Percentage Distribution of Initiation and Establishment of Breast Feeding Measured by Modified Breast Feeding Assessment Tool.**

| Initiation and establishment of breast feeding | Control group (n=30) | | Experimental group (n=30) | |
|---|---|---|---|---|
| | n | p | n | p |
| Not Able to Initiate and Establish Breast Feeding | 3 | 10 | - | - |
| Able to Initiate and Establish Breast Feeding with Assistance | 20 | 66.6 | 3 | 10 |
| Actively Initiate And Established Breast Feeding Independently | 7 | 23.4 | 27 | 90 |

The data presented in the table 3 reveals that most of the newborns in control group were able to initiate and established breast feeding with assistance (66.6%) whereas in experimental group majority of the newborns actively initiated and established breast feeding independently (90%).

**Table: 4**

**Comparison of Mean and Standard Deviation of Initiation and Establishment of Breast Feeding in Control and Experimental Group of Newborns.**

**(N=60)**

| Group | Mean | SD | 't' value |
|---|---|---|---|
| **Control Group** | **5.4** | **1.78** | **6** |
| **Experimental Group** | **7.8** | **0.88** | |

*P<0.05

The data in the table 4 depicts that the mean and standard deviation of the control group was (M=5.4, SD=1.78) whereas in experimental group the mean and standard was (M=7.8, SD=0.88). The't' value of 6 is highly significant at P< 0.05 level of significance.Hence the null hypothesis $H_{O1}$ was rejected.

**Table: 5**

**Frequency and Percentage Distribution of Level of Satisfaction upon Breast Crawl Technique in Experimental Group of Mothers.**

**(N=30)**

| Level of satisfaction | Experimental group | |
|---|---|---|
| | **n** | **P** |
| Strongly Disagree | - | - |
| Disagree | - | - |
| Agree | 2 | 6.7 |
| Strongly Agree | 28 | 93.3 |

The data presented in table 5 reveals that majority of the mothers in experimental group (93.3%) strongly agrees that breast crawl technique is an effective method for initiation and establishment of breast feeding and none of them were disagreed towards the intervention.

**Table 6:**

**Association Between the Selected Demographic Variables and Initiation and Establishment of Breastfeeding of Newborns in Control Group without breast crawl technique.**

**(N=30)**

| Demographic variables | Initiation and establishment of breast feeding | | | | $\chi^2$ |
|---|---|---|---|---|---|
| | Up to mean | | Above mean | | |
| | n | p | n | p | |
| **Age** | | | | | |
| >25 | 7 | 23.4 | 8 | 26.6 | 0.13 |
| <25 | 8 | 26.6 | 7 | 23.4 | df=1 |
| **Education** | | | | | |
| Literate | 15 | 50 | 15 | 50 | - |
| Illiterate | - | - | - | - | - |
| **Occupation** | | | | | |
| Employed | 2 | 6.6 | 7 | 23.4 | 3.96* |
| Unemployed | 13 | 43.4 | 8 | 26.6 | df=1 |
| **Religion** | | | | | |
| Hindu | 13 | 43.4 | 15 | 50 | 2.14 |
| Others | 2 | 6.6 | - | - | df=1 |
| **Income** | | | | | |
| Above 10000 | 11 | 36.6 | 8 | 26.6 | 1.29 |
| Up to 10000 | 4 | 13.4 | 7 | 23.4 | df=1 |

| | | | | | |
|---|---|---|---|---|---|
| **Type of Family** | | | | | |
| Nuclear | 10 | 33.3 | 10 | 33.3 | - |
| Joint | 5 | 16.4 | 5 | 16.4 | df=1 |
| **Area of Residence** | | | | | |
| Urban | 15 | 50 | 15 | 50 | - |
| Rural | 0 | - | 0 | - | df=1 |

Table 6 infers that there was a significant association between occupation of mother and initiation and establishment of breast feeding in control group and there was no association between other demographic variables like age, educational status, religion,family monthly income, area of residence. Hence the null hypothesis $H_{02}$ was rejected with regard to the occupation of mother.

**Table 7:**

**Association between the Selected Demographic Variables and Initiation and Establishment of Breastfeeding in Newborns in Experimental Group Using Breast Crawl Technique.**

**(N=30)**

| Demographic variables | Initiation and establishment of breast feeding | | | | $\chi^2$ |
|---|---|---|---|---|---|
| | Up to mean | | Above mean | | |
| | n | p | n | p | |
| **Age** | | | | | |
| >25 | 6 | 20 | 11 | 36.7 | 1.49 |
| <25 | 2 | 6.6 | 11 | 36.7 | df=1 |
| **Education** | | | | | |
| Literate | 8 | 26.6 | 22 | 73.4 | - |
| Illiterate | - | - | - | - | df=1 |
| **Occupation** | | | | | |
| Employed | 4 | 13.3 | 4 | 13.4 | 0.13 |
| Unemployed | 4 | 13.3 | 18 | 60 | df=1 |
| **Religion** | | | | | |
| Hindu | 4 | 13.3 | 17 | 56.7 | 2.07 |
| Others | 4 | 13.3 | 5 | 16.7 | df=1 |
| **Income** | | | | | |
| Above 10000 | 6 | 20 | 14 | 46.7 | 0.34 |
| Up to 10000 | 2 | 6.6 | 8 | 26.7 | df=1 |

| | | | | | |
|---|---|---|---|---|---|
| **Type of Family** | | | | | |
| Nuclear | 4 | 13.3 | 18 | 60 | 3.03 |
| Joint | 4 | 13.3 | 4 | 13.4 | df=1 |
| **Area of Residence** | | | | | |
| Urban | 8 | 26.6 | 22 | 73.4 | - |
| Rural | - | - | - | - | df=1 |

Data presented in table 7 represents that there was no significant association between selected demographic variables and initiation and establishment of breast feeding in newborns in experimental group.Hence the null hypothesis $H_{02}$ was retained.

**Table 8:**

**Association Between the Selected Obstetric Variables and initiation and Establishment of Breastfeeding in Newborns Without Breast Crawl Technique.**

**(N= 30)**

| Obstetric variables | Initiation and establishment of breast feeding | | | | $\chi^2$ |
|---|---|---|---|---|---|
| | Up to mean | | Above mean | | |
| | n | p | n | p | |
| **Gravida** | | | | | |
| Primi gravid | 9 | 30 | 8 | 26.6 | 0.13 |
| Multi gravid | 6 | 20 | 7 | 23.4 | df=1 |
| **Parity** | | | | | |
| One | 9 | 30 | 8 | 26.6 | 0.13 |
| More than two | 6 | 20 | 7 | 23.4 | df=1 |
| **Antenatal Checkup** | | | | | |
| Regular | 15 | 50 | 15 | 50 | - |
| Irregular | - | - | - | - | df=1 |
| **Medical Disorders** | | | | | |
| **During Pregnancy** | | | | | |
| Present | 12 | 40 | 11 | 36.7 | 0.024 |
| Absent | 3 | 10 | 4 | 13.3 | df=1 |

| | | | | | |
|---|---|---|---|---|---|
| **Type of Delivery** | | | | | |
| Normal delivery | 14 | 46.7 | 14 | 46.7 | - |
| Assisted vaginal delivery | 1 | 3.3 | 1 | 3.3 | df=1 |
| **Sex of the Baby** | | | | | |
| Male | 12 | 40 | 9 | 30 | 1.42 |
| Female | 3 | 10 | 6 | 20 | df=1 |
| **Weight of the Baby** | | | | | |
| 2.5 to 3 kg | 10 | 33.3 | 5 | 16.7 | 3.33 |
| 3.1 to 3.5 kg | 5 | 16.7 | 10 | 33.3 | df=1 |
| **Gestational Weeks at Birth** | | | | | |
| 38 to 39 | 9 | 30 | 9 | 30 | - |
| 40 to 41 | 6 | 20 | 6 | 20 | df=1 |
| **Apgar Score** | | | | | |
| 0 to 5 | - | - | - | - | - |
| 5 to 10 | 15 | 50 | 15 | 50 | df=1 |
| **Sedatives During Labour** | | | | | |
| Used | - | - | - | - | - |
| Not used | 15 | 50 | 15 | 50 | df=1 |

Table 8 infers that there was no significant association between selected obstetric variables and initiation and establishment of breast feeding in newborns in control group.Hence the null hypothesis $H_{03}$ was retained.

**Table 9:**

**Association Between the Selected Obstetric Variables and Initiation and Establishment of Breastfeeding in Newborns in Experimental Group Using Breast Crawl Technique.**

**(N= 30)**

| Obstetric variables | Initiation and establishment of brestfeeding | | | | |
|---|---|---|---|---|---|
| | Up to mean | | Above mean | | $\chi^2$ |
| | n | p | n | p | |
| **Gravida** | | | | | |
| Primi gravid | 4 | 13.3 | 12 | 40 | 0.048 |
| Multi gravid | 4 | 13.3 | 10 | 33.4 | df=1 |
| **Parity** | | | | | |
| One | 4 | 13.3 | 12 | 40 | 0.048 |
| More than two | 4 | 13.3 | 10 | 33.4 | df=1 |
| **Type of Delivery** | | | | | |
| Normal delivery | 7 | 23.2 | 22 | 73.3 | 2.84 |
| Assisted vaginal delivery | 1 | 3.32 | - | - | df=1 |
| **Antenatal Checkup** | | | | | |
| Regular | 15 | 50 | 15 | 50 | - |
| Irregular | - | - | - | - | df=1 |
| **Medical Disorders During Pregnancy** | | | | | |
| Present | 3 | 10 | 20 | 66.7 | 9.35* |
| Absent | 5 | 16.7 | 2 | 6.6 | df=1 |

| | | | | | |
|---|---|---|---|---|---|
| **Sex of the Baby** | | | | | |
| Male | 5 | 16.7 | 10 | 33.3 | 0.68 |
| Female | 3 | 10 | 12 | 40 | df=1 |
| **Weight of the Baby** | | | | | |
| 2.5 to 3 kg | 6 | 20 | 14 | 46.7 | 0.34 |
| 3.1 to 3.5 kg | 2 | 6.7 | 8 | 26. | df=1 |
| **Gestational Weeks at Birth** | | | | | |
| 38 to 39 weeks | 8 | 26.6 | 15 | 50 | 3.03 |
| 40 to 41 weeks | - | - | 7 | 23.4 | df=1 |
| **Apgar Score** | | | | | |
| 0 to 5 | - | - | - | - | - |
| 5 to 10 | 15 | 50 | 15 | 50 | df=1 |
| **Sedatives During Labour** | | | | | |
| Used | - | - | - | - | - |
| Not used | 15 | 50 | 15 | 50 | df=1 |

Data presented in table 9 shows that there was a significant association between medical disorders during pregnancy and initiation and establishment of breast feeding in newborns in experimental group, but there was no association with other obstetric variables like gravid, parity, type of delivery, weight of baby,gestational age at birth, Apgar score, sedatives used during labour. Hence the null hypothesis $H_{03}$ was rejected with regard to the medical disorders during pregnancy.

## Summary

This chapter dealt with the analysis and the interpretation of the data collected by the researcher. From the analysis it could be inferred that the initiation and establishment of breast feeding were high using breast crawl technique in the experimental group than the control group. Thus it shows that the breast crawl technique was effective in initiation and establishment of breast feeding.

# CHAPTER V

# DISCUSSION

## Statement of the Problem

An Experimental Study to Assess the Effectiveness of Breast Crawl technique Upon Initiation and Establishment of Breast Feeding in Newborns at Selected Hospital Chennai.

## Objectives of the Study

1. To assess the knowledge level regarding breast crawl technique before and after initiation and establishment of breast feeding in control and experimental group of mothers.
2. To assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.
3. To find out the level of satisfaction regarding breast crawl technique in experimental group of mothers.
4. To find out the association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.
5. To find out the association between selected obstetrical variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.

This study was carried out in 60 newborns immediately after birth who were delivered through normal and assisted vaginal delivery at Andhra MahilaSabha Chennai. Initiation and establishment of breast feeding was assessed for the control and

experimental group of newborns. For newborns in control group initiation and establishment of breast feeding was assessed without breast crawl technique and for newborns in experimental group initiation and establishment of breast feeding was assessed using breast crawl technique. The level of satisfaction upon breast crawl technique was assessed in the experimental group of mothers after initiating the breast feeding using breast crawl technique.

**The discussion is presented under the following headings**

- Demographic variables and obstetric variables in control and experimental group of mothers.
- Mean and standard deviation of initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.
- Assessment of level of satisfaction upon breast crawl technique in experimental group of mothers.
- Association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.
- Association between selected obstetric variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.

**Demographic variables of mothers**

A significant of the mothers in control and experimental group were between the age group of 26-30 years (40%, 50%) which shows that most of them were aware about

the right age of reproduction. It is also noted that only 10% of mothers in control group and only 6.6% of mothers in experimental group delivered over 31 years of age which emphasizes that there is less risk for developing complications during the antenatal period. This view was supported by Fatima, (2007) that women with two extreme of age group were prone to have an adverse pregnancy outcome which is comparatively low between 20-30 years of age.

The educational qualification of the mothers shows that a significant number of mothers were graduates (40%, 46.6%) and none of the mothers were illiterate in control and experimental group respectively, Most of the mothers were educated hence the researcher felt that they could be health educated by using recording technique of breast crawl technique in a compact disc. This view was supported by Tesfaye, et al. (2012) that attendance of formal education was associated with timely initiation of breast feeding $p<0.05$.

Most of the mothers in control and experimental group were unemployed (70%, 73.4%) hence there was a great chance for the mothers to spend enough time with their newborns and to provide exclusive breast feeding for their babies. Thus as a nurse midwife we have to encourage the mothers to give exclusive breast feeding for six months of age.

In the present study most of the mother's family monthly income was between 10001-15000 rupees (46.7%,53.45) both in control and experimental group, as they have a good economic background they can contribute effectively to the medical care facilities thus a good care could be continued which can prevent mortality and morbidity

in newborns. This view was supported by Ajiboye, et al.(2012) that mothers in the highest wealth quintile were significantly more likely to use modern trained providers for antenatal care than those in poorer quintile.

Most of the mothers in control and experimental group belong to nuclear family (66.7%, 73.4%) hence there was a less chance for elders to help the young mothers in teaching mother craft techniques hence as a nurse midwife we have a great responsibility in teaching mothers regarding benefits of early initiation and establishment of breast feeding using breast crawl technique.

Most of the mothers in control group and experimental group resides in urban (66.7%) and semi urban (53.3%) none of the mothers resides inrural area hence they hadbetter access to well equipped health care facilities which could prevent the neonatal mortality and morbidity rates.

**Obstetric variables of mothers**

Most of the mothers were primi gravid (56.6%, 46.6%) and a significant number of mothers had one child (56.6%,46.6%) in control and experimental group respectively hence the researcher felt that they were not aware of mother craft techniques, as a nurse midwife we have to teach the mothers regarding breast crawl technique.This study was supported by Leonelo,et al. (1997) that failure to initiate breast feeding immediately after delivery was more in primi mothers which is comparatively low in multiparous.

Almost all the mothers in the control and experimental group attended regular antenatal checkup (100%, 100%) and none of the mothers in control and experimental group had irregular antenatal checkup the researcher concluded that most of the mothers were aware about the importance of regular antenatal checkup and thus reduced the abnormal deliveries.

Majority of the newborns in control and experimental group were delivered through normal vaginal delivery (93.3%, 96.6%) and only 6.7% of newborns in control group and 3.4% of newborns in experimental group were delivered through assisted vaginal delivery hence the researcher concluded that proper antenatal check up might be the reason for maximum number of normal deliveries and less number of assisted vaginal deliveries.

In the present study most of the newborns in control group are males (70%) and a significant number of newborns in control group are females (30%) but in experimental group both males and females are equally distributed (50%,50%) and most of the newborns birth weight was between 2.5 to 3 kg (50%,66.6%) in control and experimental grouprespectively the researcher concluded that proper antenatal check up and antenatal visit might be the reason for the normal birth weight in the newborns and thus reduces the low birth weight babies. This study was supported by Tayie, et al. (2008) that regular antenatal checkup is essential for the better weight in the newborns.

Most of the newborns gestational age at birth was between 38-40 weeks (66.6%,76.6%) and none of the babies were preterm this proves that the risk of preterm labour and maternal complications was reduced with regular antenatal checkup and

screening methods and the health care workers assist mother in delivering the baby at the right time without leading to preterm labour.

Apgar score of all the newborns in control and experimental group was between 7-10 (100%,100%) respectively and none of the mothers in control and experimental group used sedatives during labour thus with regular antenatal checkup it is possible to have a good pregnancy outcome.

**Mean and standard deviation of initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns**

Most of the newborns in control groupwithout breast crawl technique were able to initiate and establish breast feeding only with assistance (66.6%) but in experimental group majority of the newborns using breast crawl technique actively initiated and established breast feeding independently (90%) . Mean and standard deviation of initiation and establishment of breast feeding is lower in control group (5.4, 1.78) whereas the mean and standard deviation of initiation and establishment of breast feeding is higher in experimental group (7.8, 0.88). This insists the effectiveness of breast crawl technique in initiation and establishment of breast feeding in newborns which was statistically proven at $p<0.05$ level of confidence.

The result could be attributed to the effectiveness of breast crawl technique upon initiation and establishment of breast feeding using breast crawl technique. This shows that breast crawl technique was effective in initiation and establishment of breast feeding. Initiation of breast feeding should be done within half an hour of birth to reduce the neonatal mortality and morbidity rates. Initiation of the breast feeding

immediately after delivery is the primary responsibility of the nurse midwife. Breast crawl technique is a safest and effective technique for the initiation and establishment of breast feeding hence the nurse midwife immediately after delivery should place the newborns over the mother's abdomen to provide skin to skin contact and to initiate the breast feeding.

A similar study was conducted by Sangita in 2010 to assess the effectiveness of breast crawl technique to initiate breast feeding in newborns supported the above findings, that breast crawl technique is a safe and effective technique which helps the newborns to initiate the breast feeding independently at $p<0.05$ level of confidence.

**Level of satisfaction on breast crawl technique in mothers**

Majority of the mothers were strongly agreed (93.3%) with breast crawl technique and none of them were disagreed with the breast crawl technique. This interprets that breast crawl technique was highly effective in initiation and establishment of breast feeding. Breast crawl technique is a non-invasive procedure and has no adverse effect on the mothers and the newborns. The skin to skin contact in breast crawl technique will provide warmth, comfort, metabolic adaptation, quality of attachment and bonding in newborns thus the midwife should understand the importance of breast crawl technique which is harmless and they should be encouraged to practice it.

This study was supported by Yasodha (2010) on assessing the effectiveness of breast crawl technique upon initiation of breast feeding where all the mothers (100%) were satisfied and agreed that breast crawl is an effective technique for the initiation of breast feeding in newborns immediately after birth.

**Association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns**

A significant association was foundbetween selected demographic variable like occupation and the initiation and establishment of breast feeding in control group of newborns and no association was found with other demographic variables . But in experimental group no association was found with selected demographic variables and initiation and establishment of breast feeding in newborns this shows that demographic variables had no influence in the initiation and establishment of breast feeding hence it is the responsibility of nurse midwife to initiate the breast feeding immediately after the delivery of the baby.

This was supported by a study conducted by Nakao et al (2008) on assessing the effect of skin to skin contact in initiation of breast feeding where no association between the age, area of residence, religion were found with the initiation of breast feeding.

**Association between selected obstetric variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns**

It was found that there was no association between selected obstetric variables and initiation and establishment of breast feeding using breast crawl technique in control group of newborns but in experimental group their was a significant association between selected obstetric variable like medical disorder during pregnancy and no association was found with other obstetric variables. This shows that the obstetric

variables exerts a significant influence in the initiation and establishment of breast feeding.

## Summary

This chapter has dealt with the discussion of various aspects of the study findings. This emphasized on the demographic variables and obstetric variables of the mothers. It had also dealt about the mean and standard deviation of initiation and establishment of breast feeding using breast crawl technique , association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique and association between selected obstetric variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns with supporting studies.

# CHAPTER VI

# SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

## Summary

This study was conducted by the researcher to find out the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns.

## The objectives of the study

1. To assess the knowledge level regarding breast crawl technique before and after initiation and establishment of breast feeding in control and experimental group of mothers.
2. To assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.
3. To find out the level of satisfaction regarding breast crawl technique in experimental group of mothers.
4. To find out the association between selected demographic variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.
5. To find out the association between selected obstetrical variables and initiation and establishment of breast feeding using breast crawl technique in control and experimental group of newborns.

## Null Hypotheses

**$H_{01}$** There will be no significant difference in effectiveness of breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.

**$H_{02}$** There will be no significant association between selected demographic variables and breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.

**$H_{03}$** There will be no significant associationbetween selected obstetric variables and breast crawl technique upon initiation and establishment of breast feeding in control and experimental group of newborns.

### The Major Findings of the Study

### Demographic variables of the mothers

The study finding reveals that a significant number of mothers were between the age group of 26-30 years (40%, 50%) with family monthly income between 10001-15000 rupees (46.7%, 53.4%) were graduates (40%, 46.6%) majority of the mothers belong to Hindu religion (93.4%, 70%) most of the mothers were unemployed (70%, 73.4%) belong to nuclear family (66.7%, 73.4%) resides in urban area (53.3%,66.7%) in control and experimental group respectively.

### Obstetric variables of the mothers

In the present study all the mothers went for regular antenatal checkup (100%,100%) majority of the mothers had not developed any medical disorders during

pregnancy (80%,76.6%) most of the mothers had one child (56.6%,46.6%) a significant number of mothers were primi gravid (56.6%,46.6%)andnone of them used sedatives during labour in control and experimental group respectively. All the newborns Apgar score was between 7-10 (100%,100%) majority of the newborns was delivered through normal vaginal delivery (93.3%,96.6%) most of the newborn's birth weight was between 2.5-3 kg (50%,66.6%) with 38-40 weeks of gestational age at birth (66.6%,76.6%) in control and experimental group respectively.

**Initiation and establishment of breast feeding**

Findings of the study reveals that most of the newborns in the control groupwithout breast crawl technique were able to initiate and establish breast feeding only with the help of assistance (66.6%) but in the experimental group majority of the newborns actively initiated and established breast feeding independently (90%) using breast crawl technique. Mean and standard deviation of initiation and establishment of breast feeding is lower in the control group (5.4, 1.78) whereas the mean and standard deviation of the initiation and establishment of breast feeding is higher in the experimental group (7.8, 0.88). This insists the effectiveness of breast crawl technique in initiation and establishment of breast feeding in newborns which was statistically proven at $p<0.05$ level of confidence.

**Level of satisfaction upon breast crawl technique**

Percentage distribution of level of satisfaction upon breast crawl technique indicated that majority of the mothers were strongly agreed (93.3%) that breast crawl is

an effective technique for initiation and establishment of breast feeding and none of them disagreed with breast crawl technique.

**Association between selected demographic variables and initiation and establishment of breast feeding in newborns**

The study findings reveal that there was a significant association between selected demographic variable like occupation and the initiation and establishment of breast feeding in newborns ($\chi^2$=3.96, df=1) $p < 0.05$ in control group but no association was found with other demographic variables like age, educational status, religion, monthly family income, type of family, area of residence. Hence the null hypothesis $H_{02}$ was partially rejected with regard to occupation.

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**Association between selected obstetric variables and initiation and establishment of breast feeding in newborns**

It was found that there was no association between selected obstetric variables and initiation and establishment of breast feeding in newborns in control group but in experimental group a significant association was found between selected obstetric variable like medical disorders during pregnancy and initiation and establishment of breast feeding in newborns ($\chi^2$=9.35, df=1) $p < 0.01$ and no association was found between other obstetric variables like gravida, parity, type of delivery, sex of baby, birth weight of baby, gestational weeks at birth, Apgar score and sedatives used during labour in control and experimental group of newborns hence the null hypothesis $H_{03}$ was partially rejected with regard to medical disorders during pregnancy

## Conclusion

This study shows that breast crawl technique was effective in initiation and establishment of breast feeding. The experimental group of newborns who did breast crawl actively initiated and established breast feeding independently. The breast crawl technique is a non invasive procedure and has no adverse effects on the mothers and the newborns and hence the midwives could be encouraged to initiate breast feeding immediately after delivery of newborns using breast crawl technique.

## Implications

### Nursing practice

The newborns in the experimental group actively initiated and established breast feeding using breast crawl technique than the newborns in the control group. The newborns in the experimental group show effective sucking, swallowing and latch on than the newborns in the control group. The environment in which the women give birth and the support they received from their caregivers and companions will also affect the initiation of breast feeding. It is said that Initiating breast feeding within one hour of birth will saves the life of one million infants. Hence it becomes a necessity for the midwives to have adequate knowledge and skills about breast crawl technique. It is a non invasive safe and effective technique for initiation and establishment of breast feeding. The nurses should use breast crawl technique for initiation and establishment of breast feeding immediately after birth.

**Nursing education**

Nurses are expected to have a core knowledge regarding health promotion, risk reduction and disease prevention yet, nurses have lack of knowledge surrounding breast feeding practices. In order to improve the knowledge regarding breast crawl technique nursing and medical education should include the information about the breast crawl technique. It is of paramount importance that nurses possess the knowledge and skills in practicing breast crawl technique therefore nursing programs and hospitals must make it a priority to educate both nursing students and nurses regarding evidence based breast feeding practices, support, and advice.

**Nursing administration**

With the advent of various technologies in the field of nursing nurses are expected to be skillful in various aspects of providing care for which the student nurses have to be trained in it through their education .Thus it is the responsibility of the nurse administrator to include the breast crawl technique in the nursing curriculum. The nursing staffs and the nursing students should be encouraged by the nurse administrators to practice the breast crawl technique in newborns immediately after delivery to initiate the breast feeding.

**Nursing research**

Breast crawl is an evidence based practice that has to be implemented almost in all the maternity settings. Nurses as health professionals work in coordination as a team to bring forth this initiative into maternity hospitals which will be beneficial for both mother and baby as well as the entire family there by reducing morbidity as well as mortality rates. Thus major research has to be promoted and conducted by the nurse

researcher to prove the effectiveness of breast crawl technique in initiation and establishment of breast feeding.

## Recommendations

- The same study can be conducted with large number of samples
- The same study can be conducted at different settings
- The same study can be conducted as a pre experimental study
- The same study can be conducted as a comparative study in urban and rural settings
- Breast crawl technique could be incorporated as one of the nursing procedure

## Limitations

- The study findings cannot be generalized due to small sample size.
- Simple random sampling was not possible due to practical difficulties.
- Quazi experimental research could not be possible due to practical difficulties.

## REFERENCES


Abel, R, et al. (1996). Psychobiological studies of behavior around the time of birth.**Acta Paediatrica**.58 (12). 123-125.

Brazelton, T.B. (1973) Effect of maternal expectations on early infant behavior and early child development and care, 410-15.

Bushnell, et al. (1989).Neonatal recognization of the mothers face.**British Journal Of Developmental Psychology**7(2) : 3-15.

Christensson, K, et al.(1992). Temperature, metabolic adaptation and crying in healthy newborns cared for skin-to-skin or in cot. **ActaPaediatrica8(12)**: 488-503.

Devi, S. (2010) Effectiveness of breast crawl technique to initiate the breast feeding among newborns **unpublished thesis** Rajiv Gandhi University Banglore.

Edmond, K. et al (2010) Delayed breast feeding initiation increases risk of neonatal mortality. **Paediatrics** 338-386.

Girish, M. et al (2012) Impact of breast crawl on breast feeding and its feasibility and acceptability in busy labourroom.**Journal of perinatology,** 15(3). 150.

Gangnal, P. et al. (2007). Initiation of breast feeding by breast crawl. Harish enterprises **UNICEF Maharastra**,.27-50.

Illingworth, R.S. (1987).Abilities and reflexes of the newborn in the development of the infant, 304-7.

Klaus, M. (1998).Mother and infant early emotional ties **official journal of the American paediatrics.**23(12).12-13.

.Klaus, M.(1998). Human maternal behavior at the first contact with her young paediatrics102(23), 1244-1246.

Lawrence, (1997).short and long term health benefits for mother and baby associated with breast feeding **midwifery today**89(2), 123-25.

Matthiesen, A.S. et al. (2001). Maternal oxytocin release by newborns effects of infant hand massage and suckling. **Birth**29 (12): 13-19.

Mahajan, B.K. (2010). Methods in biostatistics. (7$^{th}$ed.) New Delhi,Jaypee brothers medical publishers.

Nayak, B.C. (2008). A practice that is needed to be encouraged in all maternity hospitals Journal of **Nightingale Nursing Times, 52-53.**

Odent, M. (1977).The early expression of the rooting reflex.Processing of the 5$^{th}$ international congress of psychosomatics, Obstetrics and Gynecology.

Polit, H. &Beck, C. (2004).**Nursing research principles and methods**.(7$^{th}$ed.) Philadelphia. Lippincott.

Righard, L.&Alade, M. (1990).Effect of delivery room routines on success of first breastfeed.336(7723): 1105-07.

Tafari, N, (1998).on the need for organized prenatal care. **Ethioplan Medical Journal.**173 (11). 93.

Uvnas, K. (1996). neuroendocrinology of the mother-child interaction. **Trends in endocrinology and metabolism,**56 (5).566-572.

Varendi et al (1994). Biological mechanism for homing in on the nipple.**Midwifery today**. 20(4), 45-47.

Varendi, H. et al. (1994). Does the newborn baby find the nipple by smell.Womb to world,344(8928), 989-90.

Varendi, H. et al. (1996) Breast odour as the only maternal stimulus elicit crawling towards the odour source. **Actapaediatrica**, 90 (4), 372-75.

Widstrom, A.Met al (1987). Effects on circulation and developing feeding behavior.**ActaPaediatrica.**21(3), 153-63.

Windberg, J. et al. (1996). Attractiveness of amniotic fluid odour evidence of perinatal olfactory learning.**Acta Paediatrica**, 85(10). 1223-7.

Yashoda, P. (2010). Assessment of ability of newborns to initiate breast feeding using breast crawl technique using breast crawl technique.**Un published thesis,**TheTamilnadu Dr. M. G. R. Medical University, Chennai.

## APPENDIX - I

## LETTER SEEKING PERMISSION FROM THE SETTING

Secretary Meelawati
Cuowa
12/6/12

**Apollo College of Nursing**
(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

**CO/0256/12** **11.06.12**

To

The Director
Andhra mahila sabha,
11, Durgabai deshmukh Road
Adyar
Chennai – 600 028.

Respected Sir / Madam,

**Sub.:** To request permission for research study – Reg.

**Greetings!** As part of the curriculum requirement our 2nd year M. Sc. (N) student

Ms. **A.Buelah** has selected the following title for her research study.

**"An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns at selected hospital, Chennai."**

So I kindly request your goodselves to permit her to conduct study in your esteemed institution.

Thanking You,

Latha

**Dr. LATHA VENKATESAN**
**PRINCIPAL**

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

## APPENDIX - II

## LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH TOOL

From

MS.A.Buelah,
M.Sc., (Nursing) IInd year,
Apollo College of nursing,
Chennai-60095.

To

Forwarded Through,
Dr.Latha Venkatesan,
Principal,
Apollo College of nursing.

Sub: **Requesting for opinions and suggestions of experts for establishing content validity for research tool.**

Respected madam,

Iam a postgraduate student of the Apollo College Of Nursing. I have selected the below mentioned topic for research project to be submitted to The Tamil Nadu Dr. M.G.R Medical University, Chennai as a partial fulfilment of Masters of Nursing Degree.

**TITLE OF THE TOPIC:**

An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns at selected hospital Chennai.

With regards may I kindly request you to validate my tool for its appropriateness and relevancy Iam enclosing the Back ground of the study ,Need for the study, Statement of the problem, Objectives of the study, Demographic variable proforma, Obstetric variable proforma, Modified breast feeding assessment tool, Knowledge assessing questionnaire, Satisfaction scale on Level of satisfaction of mothers regarding breast crawl technique for your reference. I would be highly obliged and remain thankful for your great help if you could validate and send it as soon as possible.

**Thanking you,**

**Yours sincerely,**

**A.BUELAH**

## APPENDIX - III

## CERTIFICATE FOR CONTENT VALIDITY TO WHOMSOEVER IT MAY CONCERN

This is to certify that tools and content for the research study developed by II year M.Sc. (Nursing) student of Apollo College of Nursing for her dissertation "An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding at selected hospitals, Chennai, was validated

**Signature of the Expert**

## APPENDIX - IV

## LIST OF EXPERTS FOR CONTENT VALIDITY OF THE TOOL

1. **Dr.Latha Venkatesan,** M.Sc (N)., M.phil (N)., PhD (N).,
   Principal,
   Apollo College of Nursing,
   Chennai-95.
2. **Prof.Mrs.Lizy Sonia,** M.Sc (N)., PhD (N).,
   Vice principal,
   Apollo College of Nursing,
   Chennai-95.
3. **Ms.Vijaya Lakshmi,** M.Sc (N)., PhD (N).,
   Professor,
   Apollo College of Nursing,
   Chennai-95.
4. **Ms.Nesa Sathya satchi** M.Sc (N).,
   Reader
   Apollo College of Nursing,
   Chennai-95
5. **Ms.Pappy yuvarani,** M.Sc (N).,
   Reader,
   Apollo College Of Nursing,
   Chennai-95.
6. **Ms.Kavitha,** M.Sc (N).,
   Lecturer,
   Apollo College of Nursing,
   Chennai-95.
7. **Ms.Saraswathy,** M.Sc (N).,
   Lecturer
   Apollo College of Nursing,
   Chennai-95.

## APPENDIX – V

## ETHICAL COMMITTEE CLEARANCE LETTER

**Ethics Committee**

Apollo HOSPITALS
TOUCHING LIVES

30th August 2012

To,

Ms. A.Buelah
2nd Year M.SC (Nursing),
Department of Obstetrics and Gynaecological Nursing,
Apollo College of Nursing,
Chennai.

**Ref:** An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns at selected hospital, Chennai.

Sub: Approval of the above referenced project and its related documents.

Dear Ms. A.Buelah,

Ethics Committee-Apollo Hospitals has received the following document submitted by you related to the conduct of the above-referenced study.

- Project proposal.
- Participant consent form.

The Ethics Committee-Apollo Hospitals reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study at its meeting held on 29th August 2012.

The following Ethics Committee Members were present at the meeting held on 29th August 2012.

| Name | Profession | Position in the committee |
|---|---|---|
| Mr. S. S. Narayanan | Ethicist | Chairman |
| Dr. Rema Menon | Clinician | Member Secretary |
| Dr. Radha Rajagopalan | Clinician | EC-Member |
| Dr. Krishnakumar | Clinician | EC-Member |

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

# Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

| | | |
|---|---|---|
| Dr. Vijaya Kumar | Clinician | EC-Member |
| Dr. Clive Fernandes | Consultant Clinical Pharmacologist | Basic Medical Scientist |
| Dr. Nalini Roa | Social Worker | EC-Member |
| Ms. N. Suseela | Retired English Teacher | Layperson |
| Ms. Maimoona Badsha | Lawyer | Lawyer |
| Dr. Paul Dilipkumar | Clinician | EC-Member |
| Dr. V. Balaji | Clinician | EC-Member |
| Dr. M. A. Raja | Consultant Medical Oncologist | EC-Member |

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The EC review and approval of the report is only to meet their academic requirement and will not amount to any approval of their conclusions / recommendations as conclusive, deserving adoption and implementation, in any form, in any healthcare institution.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

With Regards,

Date: 30/8/12

Rema Menon

Dr. Rema Menon,
Ethics Committee-Member Secretary,
Apollo Hospitals, Chennai,
Tamil Nadu, India.

Dr. REMA MENON
MEMBER SECRETARY
ETHICS COMMITTEE, APOLLO HOSPITALS
APOLLO HOSPITALS ENTERPRISE LIMITED
CHENNAI-600 006, TAMILNADU

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

## APPENDIX -VI

## RESEARCH PARTICIPANTS CONSENT FORM IN ENGLISH

Dear participant,

I am A.BUELAH, M.Sc Nursing student of Apollo College Of Nursing, Chennai. As a part of my study, I have selected a Research project on. “An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns at selected Hospital Chennai.”

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your response. The information collected will be kept confidential and anonymity will be maintained.

**Signature of the researcher**

I …….. hereby give my consent to participate in the study.

**Signature of the participant**

**ஆராச்சியில் பங்கு பெறுபவருக்கான ஒப்புதல் படிவம்**

அன்பார்ந்த தாய்மாரே!

என் பெயர் பியுலா, நான் அப்போலோ செவிலியர் கல்லூரியில் முதுகலை செவிலியர் பயிற்சி பெறும் மாணவி, என்னுடைய பயிற்ச்சியின் ஒரு பகுதியாக, மார்பக தவழ்தல் உத்தியின் மூலம் பிறந்த குழந்தை தாய்ப்பால் குடிக்கும் திறனை மதிப்பீடு செய்யும் ஆய்வை செய்கிறேன்.

இதனால் இந்த ஆராய்ச்சியில் நீங்கள் பங்கு பெற உங்களுடைய ஒப்புதல் மற்றும் ஒத்துழைப்பை வேண்டுகிறேன். தயவு செய்து உங்களுடைய பதில்கள் அனைத்தும் வெளிப்படையாகவும் மற்றும் உண்மையானதாகவும் இருக்க வேண்டும் உங்களுடைய பெயர் எங்கும் வெளியிடப்படமாட்டாது.

ஆராச்சியாளரின் கையொப்பம்

..... என்ற நான் இந்த ஆராய்ச்சியில் பங்கு பெற ஒப்புதல் அளிக்கிறேன்.

பங்கு பெறுவோரின் கையொப்பம்

**APPENDIX – VII**

**CERTIFICATE FOR ENGLISH EDITING**

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that the dissertation **"An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns at selected hospital Chennai"** by Ms.A.Buelah M.Sc (N) IInd year, Apollo College Of Nursing was edited for English language appropriateness by

Signature

V. USHA
Asst. Prof. of English
Guru Nanak College
Velachery, Chennai - 600 042.

## APPENDIX - VIII

### CERTIFICATE FOR TAMIL EDITING

### TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool for Demographic variable proforma, Obstetric variable proforma ,Modified breast feeding assessment tool, Knowledge assessing questionnaires, Satisfaction scale on the level of satisfaction on breast crawl technique by Ms. Buelah, M.sc (N) IInd year student, Apollo College Of Nursing for her dissertation **"An experimental study to assess the effectiveness of breast crawl technique upon initiation and establishment of breast feeding in newborns at selected hospital Chennai"** was edited for Tamil language appropriateness by

Signature 4/11/13

ச.ஸ்ரீபதிநாயுடு, M.A.B.Ed.
பட்டதாரி ஆசிரியர்,
அரசுஉயர்நிலைப்பள்ளி,
சிட்லபாக்கம், சென்னை - 64

## APPENDIX - IX

## DEMOGRAPHIC VARIABLE PROFORMA

**Purpose:**

This proforma is used to measure the demographic variables such as age, educational status, occupation, monthly income, religion, type of family, number of children, and area of residence.

**Instructions:**

The researcher will collect data by interviewing the participants and place a (√) mark, as against appropriate responses.

**Sample number:** ☐

**1. Age in years**

1.1 ≤ 20 years ☐

1.2 21 to 25 years ☐

1.3 26 to 30 years ☐

1.4 ≥ 31 years ☐

**2. Educational status**

2.1 Illiterate ☐

2.2 Primary education ☐

2.3 High school education ☐

2.4 Higher secondary education ☐

2.5 Graduate ☐

2.6 Post graduate ☐

2.7 Other than this (specify)……. ☐

**3. Occupation**

3.1 Employed ☐

3.2 Unemployed ☐

**4. Religion**

4.1 Hindu ☐

4.2 Christian ☐

4.3 Muslim ☐

4.4 Others ☐

**5. Monthly income ( in rupees)**

5.1 $\leq$ 5000 ☐

5.2 5001 to 10000 ☐

5.3 10001 to 15001 ☐

5.4 $\geq$ 15000 ☐

**6. Type of family**

6.1 Nuclear family ☐

6.2 Joint family ☐

**7. Area of residence**

7.1 Urban ☐

7.2 Semi urban ☐

7.3 Rural ☐

## சமூக மற்றும் குடும்ப விவரங்களை அறியும் படிவம்

**நோக்கம்**

இந்த படிவம் தாய்மார்களின் குடும்ப மற்றும் பொருளாதாரக் குறிப்புகளாகிய வயது, கல்வித் தகுதி, தொழில், மதம், குடும்பத்தின் மாத வருமானம், வசிப்பிடம், குடும்ப அமைப்பு போன்றவற்றை அறிய உதவுகிறது.

**நிபந்தனைகள்**

கீழ்வரும் தகவல்கள் ஆய்வாளரால் நேர்முக கலந்துரையாடல் மூலமும், மருத்துவமனை குறிப்பேடுகளின் வாயிலாகவும் சேகரிக்கப்படும்.

**சாம்பிள் எண்** ☐

**1. தாயின் வயது (வருடங்களில்)?**

1.1 ≤ 20 ☐

1.2 21 – 25 ☐

1.3 26 – 30 ☐

1.4 ≥ 31 ☐

**2. கல்வித் தகுதி**

2.1 படிப்பறிவற்றவர் ☐

2.2 ஆரம்பக் கல்வி ☐

2.3 நடுநிலைக்கல்வி ☐

2.4 உயர்நிலைக் கல்வி ☐

2.5 பட்டதாரி ☐

2.6 தொழிற்கல்வி ☐

2.7 இதை தவிர (குறிப்பீடுக)..... ☐

**3. தொழில்**

3.1 பணிபுரிபவர்

3.2 குடும்பத்தலைவி

**4. மதம்**

4.1 இந்து

4.2 முஸ்லீம்

4.3. கிறிஸ்துவர்

4.4 மற்றவை

**5. குடும்பத்தின் மாத வருமானம்**

5.1 ≤ 5000

5.2 5001 – 10000

5.3 10001 – 15001

5.4 ≥ 15000

**6. குடும்ப வகை**

6.1 தனிக்குடும்பம்

6.2 கூட்டுக்குடும்பம்

**7. வசிக்கும் இடம்**

7.1 நகரம்

7.2 அரை நகர்ப்புறம்

7.3 கிராமம்

## APPENDIX - X

## OBSTETRICAL VARIABLE PROFORMA

**Purposes:**

This performa is used to measure the obstetrical variables such as gravida, parity, antenatal checkup, medical disorders during pregnancy, mode of delivery, sex of newborn weight of newborn, gestational age at birth, apgar score.

**Instructions:**

The researcher will collect data by interviewing the participants and place a (√) mark, as against appropriate responses.

**Sample number:** ☐

1. **Gravida**
   - 1.1 Primi gravid ☐
   - 1.2 Multi gravid ☐
2. **Parity**
   - 2.1 One ☐
   - 2.2 Two ☐
   - 2.3 More than two ☐
3. **Ante natal checkup**
   - 3.1 Regular ☐
   - 3.2 Irregular ☐
   - 3.3 Never ☐

**4. Medical disorders during pregnancy**

4.1 Anaemia ☐

4.2 Hypertension ☐

4.3 Gestational diabetes mellitus ☐

4.4 None ☐

**5. Mode of delivery**

5.1 Normal vaginal delivery ☐

5.2 Assisted vaginal delivery ☐

**6. Sex of newborn**

6.1 Male ☐

6.2 Female ☐

**7. Weight of newborn**

7.1 2.5 to 3 kg ☐

7.2 3.1 to 3.5 kg ☐

**8. Gestational age at birth**

8.1 38 weeks to 40 weeks ☐

8.2 40 weeks to 42 weeks ☐

**9. Apgar score**

9.1 Below 3 ☐

9.2 4 to 6 ☐

9.3 7 to 10 ☐

**10. Sedative drugs used during labour?**

10.1 Inj.Pethedine ☐

10.2 Inj.Tramadol ☐

10.3 Epidural analgesia ☐

10.4 No Sedatives ☐

## மகப்பேறு விவரங்கள் அறியும் படிவம்

**நோக்கம்**

இந்த படிவம் கர்பங்களின் எண்ணிக்கை, பிரசவங்களின் எண்ணிக்கை கர்பகாலத்தில் மருத்துவ பரிசோதனை, பிரசவமுறை, குழந்தையின் பாலினம் குழந்தையின் எடை, குழந்தை பிறந்த பொழுதுள்ள வயது வாரம், அப்கார் மதிப்பெண், பிரசவ வலியை குறைப்பதற்காக எடுத்துக்கொள்ள பட்ட வலி நிவாரண மருந்துகள் போன்ற வற்றை அறிய உதவுகிறது.

**நிபந்தனைகள்**

கீழ்வரும் தகவல்கள் ஆய்வாளரால் நேர்முக கலந்துரையாடல் மூலம் மருத்துவமனை குறிப்பேடுகளின் வாயிலாகவும் சேகரிக்கப்படும்.

**சாம்பிள் எண்** ☐

**1. கர்ப்பங்களின் எண்ணிக்கை?**

1.1 முதல் மகப்பேறு ☐

1.2 இரண்டாவது மற்றும் அதற்கு மேல் மகப்பேறு ☐

**2. பிரசவங்களின் எண்ணிக்கை**

2.1 ஒன்று ☐

2.2 இரண்டு ☐

2.3 இரண்டிற்கு மேல் ☐

**3. கர்ப்பகால பரிசோதனை**

3.1 ஒழுங்கான ☐

3.2 ஒழுங்கற்ற ☐

3.3 ஒருபோதும் செய்ததில்லை ☐

**4. கர்ப்பால நோய்கள்**

4.1 இரத்த சோகை ☐

4.2 இரத்த அழுத்தம் ☐

4.3 சர்க்கரை நோய் ☐

4.4 ஏதுவுமில்லை ☐

4.5 இதை தவிர (குறிப்பிடுக) ..... ☐

**5. பிரசவ முறை**

5.1 இயற்கை ☐

5.2 உதவியுடனான இயற்கை ☐

**6. குழந்தையின் பாலினம்**

6.1 ஆண் ☐

6.2 பெண் ☐

**7. குழந்தையின் எடை (கிலோ கிராம்)**

7.1 2.5 – 3 கிலோ கிராம் ☐

7.2 3.1 – 3.5 கிலோ கிராம் ☐

**8. குழந்தை பிறந்த பொழுதுள்ள வயது வாரம்**

8.1 38 - 40 வாரம் ☐

8.2 40 – 42 வாரம் ☐

**9. அப்கார் மதிப்பெனர்**

9.1 0 – 3 ☐

9.2 4 – 6 ☐

9.3 7 – 10 ☐

**10. பிரசவ வலியை குறைப்பதற்காக எடுக்ப்பட்ட வலிநிவாரணி**

10.1 பெத்திடின் ஊசி ☐

10.2 டெரமடால் ஊசி ☐

10.3 எபிடுயுரல் ☐

10.4 வலி நிவாரணி எதுவும் எடுக்கவில்லை ☐

## APPENDIX - XI

## BREAST FEEDING ASSESSMENT TOOL

**Purpose**:

This scale is used to observe the initiation and establishment of breast feeding in newborns by assessing the latch. length of time before latch on, suckling, audible swallowing and mothers evaluation.

**Instructions**:

The researcher will assess the initiation and establishment of breast feeding in newborns through observation and give appropriate scores.

| | **0** | **1** | **2** | **Score** |
|---|---|---|---|---|
| Latch-on | No Latch on achieved | Latch-on after repeated attempts | Eagerly grasped breast to latch on | |
| Length of time before latch-on and suckle | Over 10 min. | 4-6 min. | 0-3 min. | |
| Suckling | Did not suckle | Suckled but needed encouragement | Suckle rhythmically with lips flanged | |
| Audible Swallowing | None | Only if stimulated | present | |
| Mothers evaluation about initiation and establishment of breast feeding | Not pleased | Somewhat pleased | Pleased | |

**Scoring key:**

| **Scoring** | **Interpretation** |
|---|---|
| 0-3 | Not able to initiate and establish breast feeding |
| 4-6 | Able to initiate and establish breast feeding with assistance |
| 7-10 | Actively initiate and establish breast feeding independently |

**BLUE PRINT ON**

**STRUCTURED QUESTIONNAIRE TO ASSESS THE LEVEL OF**

**KNOWLEDGE OF MOTHERS REGARDING BREAST CRAWL TECHNIQUE.**

| Item | Content | Total number of items | Percentage |
|---|---|---|---|
| 1 | Breast feeding | 1,2,3,4,5,6 | 24% |
| 2 | Initiation of breast feeding | 7,8,9,10,11,12 | 24% |
| 3 | Breast crawl | 13,14,15,16,17,18,19 | 28% |
| 4 | Effects of breast crawl | 20,21,22,23,24,25 | 24% |
| | TOTAL | 25 | 100% |

## APPENDIX - XII

## STRUCTURED QUESTIONNAIRE TO ASSESS THE LEVEL OF KNOWLEDGE OF MOTHERS REGARDING BREAST CRAWL TECHNIQUE

**Purpose:**

This structured questionnaire is used to assess the knowledge of mothers regarding breast crawl technique.

**Instructions:**

Please read the questions given below. Each question has 4 options, select appropriate choice and write the alphabet of correct answer in space provided. The collected information will be kept confidential and will be used for research purpose only.

1. **What feed is recommended immediately after birth?**

| | | |
|---|---|---|
| 1.1 | Honey | ☐ |
| 1.2 | Glucose water | ☐ |
| 1.3 | Cows milk | ☐ |
| 1.4 | Breast milk | ☐ |

2. **Which is the best food for your Newborn baby?**

| | | |
|---|---|---|
| 2.1 | Honey | ☐ |
| 2.2 | Glucose water | ☐ |
| 2.3 | Breast milk | ☐ |
| 2.4 | Cows milk | ☐ |

3. **What is colostrum?**

| | | |
|---|---|---|
| 3.1 | First milk secreted in breast | ☐ |
| 3.2 | Unwanted milk secreted in breast | ☐ |
| 3.3 | White coloured milk secreted in breast | ☐ |
| 3.4 | Cholesterol secreted in breast | ☐ |

4. **What is exclusive breast feeding?**

| | | |
|---|---|---|
| 4.1 | Giving no other foods or drinks except breast milk for six months | ☐ |
| 4.2 | Giving breast feeding for complete one year | ☐ |
| 4.3 | Giving breast feeding and cow's milk for six months | ☐ |
| 4.4 | Giving breast milk and formula feed for six months | ☐ |

5. **What are the benefits of breast feeding for the baby?**

| | | |
|---|---|---|
| 5.1 | Breast feeding prevents neonatal tetanus | ☐ |
| 5.2 | Breast feeding prevents autism | ☐ |
| 5.3 | breast feeding protects the baby from seizure disorders | ☐ |
| 5.4 | Protects the baby against diarrhoeal and respiratory tract infection | ☐ |

6. **Which one of the following is the Benefit of breast feeding for the mother ?**

| | | |
|---|---|---|
| 6.1 | Provides Immunity | ☐ |
| 6.2 | Involution of uterus | ☐ |
| 6.3 | Healing of episiotomy wound | ☐ |
| 6.4 | Reducing the risk of deep vein thrombosis | ☐ |

7. **Which is the right time to initiate breast feeding?**

| | | |
|---|---|---|
| 7.1 | Within half an hour after delivery | ☐ |
| 7.2 | Within six hours after delivery | ☐ |
| 7.3 | Within 8 hours after delivery | ☐ |
| 7.4 | Within 24 hours after delivery | ☐ |

8. **Why we have to initiate breast feeding soon after delivery?**

| | | |
|---|---|---|
| 8.1 | As a customary | ☐ |
| 8.2 | To provide natural immunity to the newborn | ☐ |
| 8.3 | To prevent the baby from crying | ☐ |
| 8.4 | To protect the baby from hypothermia | ☐ |

9. **What will happen if there is a delay in initiation of breast feeding?**

| | | |
|---|---|---|
| 9.1 | Baby will fall asleep | ☐ |
| 9.2 | Increased risk for neonatal mortality | ☐ |
| 9.3 | Delay in neurological development | ☐ |
| 9.4 | No ill effects | ☐ |

10. **What are the benefits in initiating breast feeding soon after delivery?**

| | | |
|---|---|---|
| 10.1 | It prevents diarrheal and respiratory disease in newborn | ☐ |
| 10.2 | It helps the baby to breath well | ☐ |
| 10.3 | Prevention of neonatal jaundice | ☐ |
| 10.4 | Protection from polio virus | ☐ |

11. **How does delayed initiation of breast feeding affects mother?**

11.1 Delay in milk secretion ☐

11.2 Difficult to establish breast feeding ☐

11.3 Cause infection ☐

11.4 Can alter mothers beauty ☐

12. **Which is the best method for initiation of breast feeding?**

12.1 Cuddling the newborn ☐

12.2 Patting the newborns back ☐

12.3 Breast crawl technique ☐

12.4 Placing the newborn in mother's lap ☐

13. **What is breast crawl technique?**

13.1 Placing the newborn over mother's abdomen immediately after delivery to initiate breast feeding ☐

13.2 Placing the newborn in cradle ☐

13.3 Placing the mother and baby together in the cot ☐

13.4 Placing the newborn against the chest of mother ☐

14. **Which is the best time for practicing breast crawl?**

14.1 Immediately after delivery ☐

14.2 One day after delivery ☐

14.3 Two days after delivery ☐

14.4 One month after delivery ☐

15. **Why breast crawl is necessary?**

15.1 To prevent infection ☐

15.2 To initiate breast feeding ☐

15.3 To prevent weight loss ☐

15.4 To prevent mother baby separation ☐

16. **Which is the correct position for breast crawl technique?**

16.1 Nose at the midline of two breast and eyes at the level of nipple ☐

16.2 In supine position over the abdomen ☐

16.3 In left lateral position near the side of the mother ☐

16.4 In supine position near the right side of the mother ☐

17. **What step to be followed in breast crawl?**

17.1 Baby should not cry ☐

17.2 Mother and baby should be dressed fully ☐

17.3 Baby's head should be kept covered ☐

17.4 Mothers chest and baby's chest should be naked ☐

18. **Which area of the baby should not be wiped before breast crawl?**

18.1 Head ☐

18.2 Face ☐

18.3 Fingers And palm ☐

18.4 Chest ☐

19. **What make the baby capable to do breast crawl?**

| | | |
|---|---|---|
| 19.1 | Rooting reflex | ☐ |
| 19.2 | Grasping reflex | ☐ |
| 19.3 | Sensory, central, motor and neuro endocrine component | ☐ |
| 19.4 | Sucking reflex | ☐ |

20. **What is special in breast crawl?**

| | | |
|---|---|---|
| 20.1 | It helps newborn to crawl | ☐ |
| 20.2 | Breast feeding is initiated independently by the newborn | ☐ |
| 20.3 | No skin to skin contact | ☐ |
| 20.4 | No need for burping after breast feed | ☐ |

21. **Which hormone is secreted in mother's body because of the effect of breast crawl?**

| | | |
|---|---|---|
| 21.1 | Oxytocin | ☐ |
| 21.2 | Estrogen | ☐ |
| 21.3 | Progesterone | ☐ |
| 214 | Thyroid | ☐ |

22. **What is the benefit of breast crawl to the mother?**

| | | |
|---|---|---|
| 22.1 | Prevention of breast cancer | ☐ |
| 22.2 | Increase the estrogen secretion | ☐ |
| 22.3 | prevention of puerperal infection | ☐ |
| 22.4 | prevents blood loss | ☐ |

23. **What is the benefit of breast crawl to the baby?**

| | | |
|---|---|---|
| 23.1 | Promotion of early initiation of breast feeding | ☐ |
| 23.2 | Protection from neonatal jaundice | ☐ |
| 23.3 | Protection from nosocomial infections | ☐ |
| 23.4 | Protection from weight loss | ☐ |

24. **What is the benefit of breast crawl for both mother and newborn?**

| | | |
|---|---|---|
| 24.1 | Provides Comfort | ☐ |
| 24.2 | Provides natural immunity | ☐ |
| 24.3 | Prevention of weight loss | ☐ |
| 24.4 | Promotes bonding | ☐ |

25. **What is the effect of successful completion of breast crawl?**

| | | |
|---|---|---|
| 25.1 | Establishment of lactation | ☐ |
| 25.2 | Prevention of neonatal jaundice | ☐ |
| 25.3 | Prevention of obesity | ☐ |
| 25.4 | Motor development | ☐ |

**Scoring interpretations:**

| Score | Percentage | Interpretation |
|---|---|---|
| ≥ 23 | ≥75% | Adequate knowledge |
| 16 – 22 | 51-74% | Moderately adequate knowledge |
| ≤15 | ≤ 50% | Inadequate knowledge |

## KEY ANSWERS TO THE QUESTIONS

| Question number | Answers | Scores |
|---|---|---|
| 1 | d | 1 |
| 2 | c | 1 |
| 3 | a | 1 |
| 4 | a | 1 |
| 5 | d | 1 |
| 6 | b | 1 |
| 7 | a | 1 |
| 8 | b | 1 |
| 9 | b | 1 |
| 10 | a | 1 |
| 11 | b | 1 |
| 12 | c | 1 |
| 13 | a | 1 |
| 14 | a | 1 |
| 15 | b | 1 |
| 16 | a | 1 |
| 17 | d | 1 |
| 18 | c | 1 |
| 19 | c | 1 |
| 20 | b | 1 |
| 21 | a | 1 |
| 22 | d | 1 |
| 23 | a | 1 |
| 24 | d | 1 |
| 25 | a | 1 |

**மார்பக தவழ்தல் உத்தியை பயன்படுத்தி பிறந்த குழந்தை தாய்ப்பால் குடிக்கும் திறனின் அறிவைப் பற்றிய வடிவமைக்கப்பட்ட நேர்க்காணல் படிவம்.**

**நோக்கம்**

இந்த வடிவமைக்கப்பட்ட நேர்கானல் படிவம் மார்பக தவழ்தல் உத்தியைப் பயன்படுத்தி பிறந்த குழந்தை தாய்ப்பால் குடிக்கும் திறனை பற்றி அறிய உதவுகிறது.

**பங்கு பெறுவோருக்கான நிபந்தனைகள்**

இந்த வடிவமைகப்பட்ட நேர்க்காணல் படிவத்தில் ஒவ்வொரு கேள்விக்கும் நான்கு விடைகள் அளிக்கப்பட்டுள்ளன தயவு செய்து கீழே கொடுக்கப்பட்டுள்ள கேள்விகள் மற்றும் பதில்களைப் படிக்கும் போது கவனமுடன் படிக்கவும் ஒவ்வொரு கேள்விக்கும் சரியான பதிலை அதற்குரிய கட்டத்தில் இக் (✓) குறியீட்டின் மூலம் தெரிவிக்கவும்.

தயவு செய்து உண்மையான பதிலை தெளிவாகவும் ஒளிவு மறைவின்றியும் அளிக்கவும். நீங்கள் அளிக்கும் விவரங்கள் மற்றும் உங்களைப் பற்றிய குறிப்புகள் அனைத்தும் இரகசியமாக வைக்கப்படும்.

**1. பிறந்த குழந்தைக்கு முதலில் பரிந்துரைக்கப்படும் ஆகாரம் எது?**

1.1 தேன் ☐

1.2 குளுக்கோஸ் தண்ணீர் ☐

1.3 பசும்பால் ☐

1.4 தாய்ப்பால் ☐

**2. எது பிறந்த குழந்தைக்கு சிறந்த உணவு?**

2.1 தேன் ☐

2.2 குளுகோஸ் தண்ணீர் ☐

2.3 தாய்ப்பால் ☐

2.4 பசும்பால் ☐

**3. சீம்பால் என்பது என்ன?**

3.1 மார்பகத்தில் சுரக்கும் முதல் பால் ☐

3.2 மார்பகத்தில் சுரக்கும் தேவையற்ற பால் ☐

3.3 மார்பகத்தில் சுரக்கும் வெள்ளை நிற பால் ☐

3.4 மார்பகத்தில் சுரக்கும் ஒருவித கெழுப்பு ☐

**4. பிரத்தியேக தாய்ப்பால் என்றால் என்ன?**

4.1 ஆறுமாதங்களுக்கு தாய்ப்பால் தவிறவேறு எந்த உணவோ அல்லது பானமோ கொடுக்காமாலிருத்தல் ☐

4.2 ஒருவருடத்திற்கு தாய்ப்பால் மட்டுமே கொடுத்தல் ☐

4.3 ஆறுமாதங்களுக்கு தாய்ப்பால் மற்றும் பசும்பால் கொடுத்தல் ☐

4.4 ஆறுமாதங்களுக்கு தாய்ப்பால் மற்றும் தயார் செய்ய பட்ட பால் கொடுத்தல் ☐

**5. தாய்ப்பால் ஊட்டுதலின் மூலம் குழந்தைக்கு ஏற்படும் நன்மை என்ன?**

5.1 தாய்ப்பால் பிறந்த குழந்தைக்கு டெடனஸ் வராமல் தடுக்கும் ☐

5.2 குழந்தைக்கு பிற்காலத்தில் மன இறுக்க நோய் வராமல் தடுக்கும் ☐

5.3 குழந்தைக்கு வலிப்பு நோய் வராமல் தடுக்கும் ☐

5.4 குழந்தையின் நோய் எதிர்ப்பு சக்தியை அதிகரிக்கும் ☐

**6. தாய்ப்பால் ஊட்டுவதன் மூலம் தாயிற்கு ஏற்படும் நன்மை யாது?**

6.1 நோய் எதிர்ப்பு சக்தியை அளிக்கிறது ☐

6.2 கருப்பை சுருங்க உதவுகிறது ☐

6.3 குழந்தை வெளிவருவதற்காக விடப்பத்தில் ஏற்படுத்தபட்ட காயத்தை விரைவில் ஆற்ற உதவும் ☐

6.4 இரத்த குழாயில் இரத்த உறைவு ஏற்படுதலை தடுக்கும் ☐

**7. பிறந்த குழந்தைக்கு தாய்ப்பால் கொடுக்க ஆரம்பிபதற்கான சரியான நேரம் எது?**

7.1. குழந்தை பிறந்து அரைமணி நேரத்திற்குள்

7.2. குழந்தை பிறந்த ஆறுமணி நேரத்திற்குள்

7.3 குழந்தை பிறந்து எட்டு மணி நேரத்திற்குள்

7.4 குழந்தை பிறந்து இருபத்தி நான்கு மணி நேரத்திற்குள்

**8. எதற்காக குழந்தை பிறந்தவுடன் தாய்பால் கொடுக்க வேண்டும்?**

8.1 அது ஒரு வழக்கமான செயல்

8.2 பிறந்த குழந்தைக்கு நோய் எதிர்ப்பு சக்தியை அளிப்பதற்காக

8.3 குழந்தை அழுவதை தடுப்பதற்காக

8.4 உடல் வெப்பம் குறைவதை தடுப்பதற்காக

**9. குழந்தைக்கு தாய்ப்பால் தாமதமாக கொடுத்தால் என்ன நேரிடும்?**

9.1 குழந்தை தூங்கிவிடும்

9.2 பிறந்த குழந்தையின் இறப்பு விகிதம் அதிகரிக்கும் ஆபத்து ஏற்படும்

9.3 நரம்பு மண்டல வளற்சி தாமதிக்கும்

9.4 தீயவியைவுகள் ஒன்றும் ஏற்படாது

**10. குழந்தை பிறந்தவுடன் தாய்பால் கொடுக்க ஆரம்பிப்பதால் ஏற்படும் நன்னை என்ன?**

10.1 வயிற்று போக்கு மற்றும் சுவாச உறுப்பில் ஏற்படும் நோய் தொற்றை தடுக்கும்

10.2 குழந்தை நன்கு சுவாசிக்க உதவிபுரியும்

10.3 மஞ்சள் காமாலை வராமல் தடுக்கும்

10.4 இளம்பிள்ளை வாதம் வராமல் பாதுகாக்கும்

**11. தமதமாக தாய்பால் கொடுக்க ஆரம்பிப்பது தாயை எவ்வாறு பாதிக்கிறது?**

11.1 பால் சுரப்பதில் தாமதம் ஏற்படும் ☐

11.2 தாய்பால் தொடர்ந்து கொடுப்பதில் கடினம் ஏற்படும் ☐

11.3 நோய் தொற்று ஏற்படும் ☐

11.4 தாயின் அழகை மாற்றுவிடும் ☐

**12. பிறந்த குழந்தைக்கு தாய்பால் கொடுக்க ஆரம்பிப்பதற்கான சிறந்த முறையாது?**

12.1 குழந்தையை கொஞ்சுதல் ☐

12.2 குழந்தையின் முதுகை தட்டுதல் ☐

12.3 மார்பக தவழ்தல் முறை ☐

12.4 குழந்தையை தாயின் மடியில் வைத்தல் ☐

**13. மார்பக தவழ்தல் உத்தி என்றால் என்ன?**

13.1 பிறந்த குழந்தையை உடனடியாக தாயின் வயிற்று பகுதியில் குப்புற படுக்க வைப்பது ☐

13.2 பிறந்த குழந்தையை தொட்டிலில் படுக்க வைப்பது ☐

13.3 தாயும் சேயும் ஒரே கட்டிலில் படுக்கும் முறை ☐

13.4 பிறந்த குழந்தையை தாயின் மார்புக்கு எதிராக படுக்க வைத்த ☐

**14. மார்பக தவழ்தல் உத்திக்கான சிறந்த நேரம் எது?**

14.1 குழந்தை பிறந்த சிறது நேரத்தில் ☐

14.2 குழந்தை பிறந்து ஒரு நாள் கழித்து ☐

14.3 குழந்தை பிறந்து மூன்ற நாட்கள் கழித்து ☐

14.4 குழந்தை பிறந்து ஒரு மாதம் கழித்து ☐

**15. மார்பக தவழ்தல் உத்தியின் அவசியம் என்ன?**

15.1 நோய் தொற்றை தடுக்கும் ☐

15.2 தாய் பால் கொடுக்க ஆரம்பிப்பதற்காக ☐

15.3 எடை குறைவை தடுப்பதற்காக ☐

15.4 தாய் சேய் பிரிவை தடுக்கும் ☐

**16. மார்பக தவழ்தல் உத்திக்கான சிறந்த நிலையாது**

16.1 குழந்தையின் மூக்கு தாயின் இரண்டு மார்பகங்களுக்கு நடுவிலும் கண்கள் முலைக்காம்பின் மட்டத்தில் இருக்க வேண்டும். ☐

16.2 தாயின் வயிற்றின் மேல் பிறந்த குழந்தையை மல்லாந்து படுக்க வைக்க வேண்டும் ☐

16.3 தாயின் அருகில் பிறந்த குழந்தையை இடது பக்கமாக சரித்து படுக்க வைக்க வேண்டும். ☐

16.4 தாயில் வலது பக்கத்தில் பிறந்த குழந்தையை மல்லாக்க படுக்க வைக்க வேண்டும். ☐

**17. மார்பக தவழ்தல் செய்வதற்கு முன் எடுக்கப்பட வேண்டிய நடவடிக்கை என்ன?**

17.1 குழந்தை அழாமல் இருத்தல் வேண்டும் ☐

17.2 தாய் மற்றும் குழந்தை முழுமையாக உடை அணிந்திருக்க வேண்டும். ☐

17.3 குழந்தையின் தலையை துணியால் மூடிவைத்திருக்க வேண்டும் ☐

17.4 தாயின் மார்பும் குழந்தையின் மார்பும் அப்பட்டமாக இருக்க வேண்டும். ☐

**18. பிறந்த குழந்தையின் உடலில் எந்த பகுதியை மட்டும் துடைக்க கூடாது?**

18.1 தலை ☐

18.2 முகம் ☐

18.3 விரல்கள் மற்றும் உள்ளங்கை ☐

18.4 மார்பு ☐

**19. எது குழந்தைக்கு மார்பக தவழ்தல் உத்தி செய்வதற்கான திறமையை அளிக்கிறது?**

19.1 அடிப்படைத் தூண்டுச் செயல் ☐

19.2 பற்றும் தூண்டுச் செயல் ☐

19.3 புலன்கள் சார்ந்த தசை மத்திய நரம்பியல் மற்றும் நாளமில்லா சுரப்பி கூறு ☐

19.4 உறிஞ்சும் தூண்டு செயல் ☐

**20. மார்பக தவழ்தலின் தனித்துவம் என்ன?**

20.1 பிறந்த குழந்தையை தவழச் செய்கிறது ☐

20.2 பிறந்த குழந்தை தாய்ப்பால் தன்னிச்சையாக குடிக்க தொடங்கும் ☐

20.3 இம்முறையில் தாய்க்கும் சேய்க்குமான தோல் தொடர்பு இல்லை ☐

20.4 தாய்ப்பால் கொடுத்த பிறகு குழந்தைக்கு தட்டி கொடுக்க தேவைஇல்லை ☐

**21. எந்த ஹார்மோன் மார்பக தவழ்தலின் விளைவாக தாயின் உடலில் சுரக்கும்?**

21.1 ஆக்ஸிடோஸின் ☐

21.2 ஈஸ்ரோஜன் ☐

21.3 புரோஜெஸ்ட்டிரோன் ☐

21.4 தைராய்டு ஹார்மோன் ☐

**22. மார்பக தவழ்தலால் தாய்க்கு ஏற்படும் நன்மை என்ன?**

22.1 மார்பக புற்று நோயை தடுக்கும் ☐

22.2. ஈஸ்ரோஜன் ஹார்மோன் அளவை அதிகரிக்கச் செய்யும் ☐

22.3 மகப்பேற்று பிறகாலத்தில் ஏற்படும் நோய் தொற்றை தடுக்கும் ☐

22.4 பிரசவத்தின் போது ஏற்படும் இரத்த இழப்பை குறைக்கும் ☐

**23. மார்பக தவழ்தல் மூலம் குழந்தைக்கு ஏற்படும் நன்மை ன்னன?**

23.1 தாய்ப்பால் விரைவில் ஆரம்பிப்பதற்கு ஊக்குவிக்கும் ☐

23.2 மஞ்சள் காமாலையை தடுக்கும் ☐

23.3 மருத்துவமனையில் இருந்து ஏற்படும் தொற்று நோயை தடுக்கும் ☐

23.4 எடை குறைதலை தடுக்கும் ☐

**24. மார்பக தவழ்தலால் தாய் மற்றும் குழந்தைக்கு ஏற்படும் நன்மை என்ன?**

24.1 நல்லா சுகத்தை அளிக்கும் ☐

24.2 நோய் எதிர்ப்பு சக்தியை கொடுக்கும் ☐

24.3 எடை குறைதலை தடுக்கும் ☐

24.4 தாய் மற்றும் சேய் பாச பிணைப்பை அதிகரிக்கும் ☐

**25. மார்பக தவழ்தல் வெற்றிகரமாக நிறைவு பெறுவதன் விளைவு என்ன?**

25.1 தாய்ப்பால் சுரப்பது நிலை நாட்டப்படுகிறது ☐

25.2 பிறந்தத குழந்தைக்கு ஏற்படும் மஞ்சள் காமாலையை தடுக்கப்படும். ☐

25.3 உடல் பருமனை தடுக்கும் ☐

25.4 தசை வலுபெறும் ☐

**BLUE PRINT**

**RATING SCALE ON LEVEL OF SATISFACTION OF MOTHERS**

**REGARDING BREAST CRAWL TECHNIQUE**

| **Item** | **Content** | **Item number** | **Total item** | **Percentage** |
|---|---|---|---|---|
| 1. | Characteristics of researcher | 1,2,3,4,5 | 5 | 33.3% |
| 2. | Breast crawl technique | 6,7,8,9,10 | 5 | 33.3% |
| 3. | Effects of breast crawl | 11,12,13,14,15 | 5 | 33.3% |
| | | Total | 15 | 100% |

## APPENDIX - XIII

## RATING SCALE ON LEVEL OF SATISFACTION OF MOTHERS REGARDING BREAST CRAWL TECHNIQUE

**Purpose:**

This rating scale is designed to assess the level of satisfaction of the mothers regarding breast crawl and this is assessed by the researcher at the end of breast crawl technique.

**Instructions:**

The researcher will assess the level of satisfaction by interviewing mothers and put (√) mark against the appropriate response .The responses extend from strongly disagree to agree.

| S/NO | Item | Strongly disagree (1) | Disagree (2) | Agree (3) | Strongly agree (4) |
|---|---|---|---|---|---|
| 1. | Are you satisfied with the explanation regarding breast crawl technique given by the researcher | | | | |
| 2. | Are you satisfied with approach of the researcher | | | | |
| 3. | Are you satisfied with the time spent by the researcher | | | | |
| 4. | Are you satisfied with the privacy given to you by the researcher | | | | |
| 5. | Are you satisfied with the session on the whole | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 6. | Are you satisfied with the breast crawl technique | | | | |
| 7. | I felt happy when wet hands of my baby touched my chest | | | | |
| 8. | Iam able to bear the pain patiently | | | | |
| 9. | I didn't feel any discomfort with breast crawl | | | | |
| 10. | My baby initiated breast feeding on his/her own | | | | |
| 11. | It gave me a chance for good bonding | | | | |
| 12. | My mind is relaxed after the breast crawl | | | | |
| 13. | I experienced change of mood from unpleasant to pleasant. | | | | |
| 14. | Breast crawl improves my inner feelings and peace of mind | | | | |
| 15. | Breast crawl promotes a sense of well being. | | | | |

**Scoring interpretations:**

| Score | Percentage | Interpretation |
|---|---|---|
| 46 – 60 | 76-100% | Strongly agree |
| 31 – 45 | 51-75% | Agree |
| 16 – 30 | 26-50% | Disagree |
| ≤15 | ≤25% | Strongly disagree |

## திருப்தியை அளக்கும் தர அளவுகோல்

**நோக்கம்**

இந்த தர அளவுகோல் மார்பக தவழ்தல் உத்தியைப் பயன்படுத்தி பிறந்த குழந்தைக்கு தாய்ப்பால் ஊட்டும் முறையின் திருப்தியை கண்டறிய உதவும்.

**குறிப்பு**

இங்கு பதினைந்து தனி விவரங்கள் கொடுக்க பட்டுள்ளன ஒவ்வொரு தனி விவரத்திற்கும் நான்கு பதில்கள் உள்ளன. ஒவ்வொரு கேள்வியின் பதிலையும் மிகவும் திருப்தியாக உள்ளதா, திருப்தியாக உள்ளதா, அதிருப்தியாக உள்ளதா, மிகவும் அதிருப்தியாக உள்ளதா என தெரிவிக்கவும். உங்கள் பதில்களை தெளிவாக ஒளிவுமறைவின்றி தெரிவிக்கவும் உங்கள் பதில்கள் பத்திரமாக பாதுகாக்கப்படும்.

| **வ. எண்** | **கேள்விகள்** | **மிகவும் அதிருப்தி (1)** | **அதிருப்தி (2)** | **திருப்தி (3)** | **மிகவும் திருப்தி (4)** |
|---|---|---|---|---|---|
| 1. | ஆராய்ச்சியாளர் மார்பக தவழ்தல் நுட்பம் பற்றி தங்களுக்கு கொடுத்த விளக்கம் திருப்தி அளிகிறதா | | | | |
| 2. | ஆராய்ச்சியாளரின் அணுகுமுறை உங்களுக்கு திருப்தி அளிகிறதா | | | | |
| 3. | நீங்கள் ஆராய்ச்சியாளர் செலவழித்த நேரத்தில் திருப்தி அடைகிரீர்களா | | | | |
| 4. | ஆராய்ச்சியாளர் உங்களுக்கு கொடுக்கபட்ட தனிமையில் திருப்தி அடைகிறீர்களா | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 5. | இந்த முழு அமர்வும் உங்களுக்கு திருப்தி அளிப்பதாக உள்ளதா | | | | |
| 6. | மார்பக தவழ்தல் உத்தி தங்களுக்கு திருப்தி அளிக்கிறதா | | | | |
| 7. | என் குழந்தையின் ஈரமான கைகள் என் நெஞ்சை தொட்ட போது நான் மகிழ்ச்சி அடைந்தேன் | | | | |
| 8. | என்னால் பொறுமையாக வலியை தாங்கிக்கொள்ள முடிந்தது | | | | |
| 9. | எனக்கு மார்பக தவழ்தல் உத்தியில் எந்த அசௌகரியமும் தோன்றவில்லை | | | | |
| 10. | எனது குழந்தை சொந்தமாக தாய்ப்பால் குடிக்க தொடங்கியது | | | | |
| 11. | அது எனக்கு பாசபிணைப்பிற்கான ஒரு வாய்ப்பை கொடுத்தது | | | | |
| 12. | மார்பக தவழ்தலுக்கு பிறகு எனது மனம் நன்றாக உள்ளது. | | | | |
| 13. | எனது மனநிலை விரும்ப தகாத நிலையில் இருந்து விரும்ப தக்க நிலைக்கு மாறியதை நான் உணர்ந்தேன் | | | | |
| 14. | மார்பக தவழ்தல் என் உள்ளுணர்வுகள் மற்றும் மன அமைதியை அதிகரிக்கிறது. | | | | |
| 15. | மார்பக தவழ்தல் ஒரு நல்ல உணர்வை ஊக்குவிக்கிறது | | | | |

**APPENDIX – XIV**

**PLAGIARISM ORIGINALITY REPORT**

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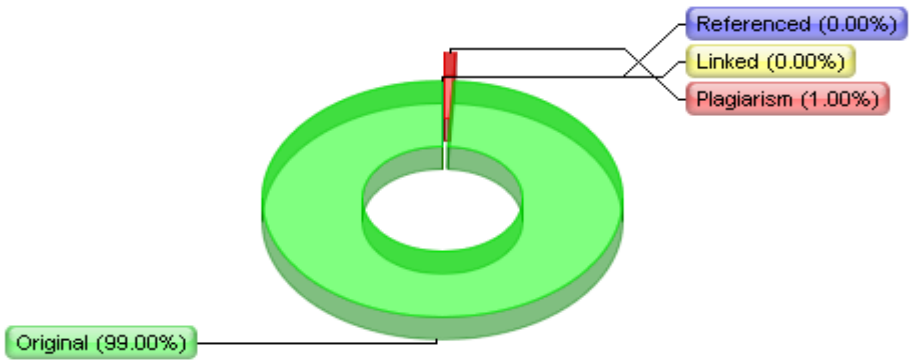


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## APPENDIX - XV

## MANUAL ON BREAST CRAWL TECHNIQUE

**Breast crawl**

Every newborn when placed on her mother's abdomen, soon after birth have the ability to find her mother's breast all on her own and to decide when to take the first breast feed. This is called the breast crawl.

**What makes a baby capable of breast crawl**

Breast crawl is associated with a variety of sensory, central, motor, and endocrine components. This directly or indirectly helps the baby to move towards the breast and nipple and to successfully breast feed when placed on the mother's abdomen.

**I. Sensory output**

The baby finds the breast with the help of smell, vision, and taste.

**II. Central input**

According to the Brazel Neonatal Behavior Assessment Scale after 15 minutes of birth the newborn median state is four. This is a special state of alertness and consciousness in which babies eyes are wide open and is quiet. In this state the baby is especially interested in her parent's faces and can recognize the mother's voice. The baby in this state is ready to integrate sensory inputs and other components to complete the breast crawl and takes its first feed immediately after birth.

**III. Motor inputs**

- Orofacial movements
- Lower and upper limb movements
- Salivation helps the baby to reach the breast.

**IV, Neuroendocrine Inputs**

Oxytocin surge occurs due to stimulation of the posterior pituitary gland which causes milk ejection enhances uterine contraction.

**Procedure for breast crawl**

1. Discuss breast crawl technique with the mother during antenatal visits
2. Orient the staff about the breast crawl technique
3. Avoid labour analgesia as far as possible
4. If the baby has cried well immediately after birth and is stable he/she does not need oro-nasal suctioning
5. Dry the baby nicely except for the hands
6. Raise the mother's head on the pillow so that the mother can see her baby easily during the breast crawl.
7. Now keep the naked baby on the mother’s abdomen with the head in between the bare unwashed and unwiped breast
8. Mothers hand can support the baby’s position, avoid slipping of the baby and give the additional touch
9. Continue in this position till the baby takes the first feed
10. In case the baby’s several attempts to latch on the breast fails then the baby can be gently moved near to the breast and assisted by a helper to attach to the breast.
11. The mother should not be moved out of labour room till the first breast feed is completed.

12. A female relative or even the father can be called in at the earliest and the acceptable time to be a part of this important magical emotional interaction.

**Cheek to cheek contact**

**Placing the baby over mothers abdomen**

**Olfactory and visual stimuli**

**Crawling movements towards breast**

**Successful completion of breast crawl technique**

**Do's and don'ts for success of breast crawl**

**For the mother**

- Use drugs for labour judiciously
- Do not wash or wipe breast before feeding
- Raise mothers head on pillow to facilitate mother baby visual contact
- Do not move mother out of labour room until completion of breast feed

**For the baby**

- Baby who has cried well does not need oronasal suction
- Dry the baby thoroughly except for the hands
- Do not pass orogastric tube or do gastric suction as a routine
- Baby and the mother should be covered with a cloth to keep warm while continuing skin to skin contact
- Delay the injection of vitamin K

- Baby bath is best delayed to beyond 24 hours
- Continue the first skin to skin contact till completion of the first breast feed.

**Advantages**

**For the baby**

- Warmth
- Comfort
- Metabolic adaptation
- Quality of attachment

**For the mother**

- Oxytocin release helps in uterine contraction
- Expulsion of placenta
- Reduction of post partum haemorrhage

**For both mother and baby**

- Bonding

## APPENDIX –XVI

## DATA CODE SHEET

**CG**: Control group
**EG**: Experimental group

**AGE**: Age in years
1.1 $\leq$ 20 years
1.2 21-25 years
1.3 26-30 years
1.4 $\geq$ 31

**EDN**: Educational qualification
2.1 Illiterate
2.2 Primary education
2.3 Secondary education
2.4 Higher secondary
2.5 Graduate
2.6 Post graduate
2.7 Others

**OCC**: Occupation
3.1 Employeed
3.2 House wife

**REL**: Religion
4.1 Hindu
4.2 Christian
4.3 Muslim
4.4 Others

**MI**: Monthly income
5.1 < 5000
5.2 5001-10000
5.3 10001-15001
5.3 $\geq$ 15000

**TOF**: Type of family
6.1 Nuclear
6.2 Joint

**AOR**: Area of residence
7.1 Rural
7.2 Semi-rural
7.3 Urban

**GRAVIDA**
1.1 Primi
1.2 Multi

**Ante natal visit**
3.1 Regular
3.2 Irregular
3.3 Never

**MDP**: Medical disorders during pregnancy
4.1 Anaemia
4.2 Pregnancy induced hypertension
4.3 Gestational diabetes
4.4 None
4.5 Specify

**TOD**: Type of delivery
5.1 Normal vaginal delivery
5.2 Assisted vaginal delivery

**SEX**
6.1 Male
6.2 Female

**BW**: Birth weight
7.1 2.5-3
7.2 3.1-3.5

**GA**: Gestational age
8.1 38-39
8.2 40-41

**APG**: Apgar score
9.1 0-3
9.2 4-6
9.3 7-10

**SED**: Sedatives
10.1 Morphine
10.2 Pethidine
10.3 Epidural analgesia
10.4 No sedatives

**BFA**: Breast feeding assessment
**LOS**: Level of satisfaction

# APPENDIX -XVII

# MASTER CODE SHEET

## CONTROL GROUP

| CG | DEMOGRAPHIC VARIABLES | | | | | | | OBSTERTIC VARIABLES | | | | | | | | | | BFA | KNOWLEDGE LEVEL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AGE | EDN | OCC | REL | MI | TOF | AOR | GRAVIDA | PARITY | AV | MD | MOD | SEX | BW | GA | APG | SED | | PRE TEST | POST TEST |
| 1 | 1.2 | 2.2 | 3.2 | 4.1 | 5.1 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.2 | 8.2 | 9.3 | 10.4 | 4 | 11 | 23 |
| 2 | 1.2 | 2.3 | 3.1 | 4.1 | 5.2 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.2 | 8.1 | 9.3 | 10.4 | 7 | 11 | 24 |
| 3 | 1.2 | 2.4 | 3.2 | 4.1 | 5.1 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.1 | 8.1 | 9.3 | 10.4 | 4 | 11 | 22 |
| 4 | 1.4 | 2.4 | 3.2 | 4.1 | 5.2 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 7 | 11 | 16 |
| 5 | 1.2 | 2.4 | 3.2 | 4.1 | 5.1 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.1 | 5.1 | 6.2 | 7.2 | 8.2 | 9.3 | 10.4 | 5 | 11 | 24 |
| 6 | 1.2 | 2.4 | 3.2 | 4.1 | 5.1 | 6.2 | 7.2 | 1.2 | 2.2 | 3.1 | 4.3 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 8 | 11 | 20 |
| 7 | 1.2 | 2.4 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 3 | 11 | 23 |
| 8 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.2 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 5 | 11 | 20 |
| 9 | 1.4 | 2.4 | 3.2 | 4.1 | 5.1 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 5 | 11 | 23 |
| 10 | 1.2 | 2.4 | 3.1 | 4.1 | 5.1 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 4 | 11 | 21 |
| 11 | 1.2 | 2.4 | 3.2 | 4.1 | 5.4 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 6 | 11 | 23 |
| 12 | 1.1 | 2.3 | 3.2 | 4.1 | 5.4 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.1 | 5.1 | 6.1 | 7.2 | 8.1 | 9.3 | 10.4 | 6 | 11 | 23 |
| 13 | 1.1 | 2.4 | 3.2 | 4.1 | 5.1 | 6.2 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 4 | 11 | 19 |
| 14 | 1.2 | 2.4 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.2 | 7.1 | 8.2 | 9.3 | 10.4 | 7 | 11 | 23 |
| 15 | 1.2 | 2.4 | 3.2 | 4.1 | 5.4 | 6.2 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 6 | 11 | 19 |
| 16 | 1.2 | 2.4 | 3.1 | 4.1 | 5.4 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.2 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 6 | 11 | 22 |
| 17 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.2 | 7.2 | 1.1 | 2.1 | 3.1 | 4.3 | 5.2 | 6.1 | 7.2 | 8.2 | 9.3 | 10.4 | 4 | 11 | 24 |
| 18 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.2 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 4 | 11 | 20 |
| 19 | 1.2 | 2.3 | 3.1 | 4.1 | 5.2 | 6.2 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.2 | 8.1 | 9.3 | 10.4 | 6 | 11 | 18 |
| 20 | 1.2 | 2.4 | 3.1 | 4.1 | 5.4 | 6.2 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.2 | 8.2 | 9.3 | 10.4 | 6 | 11 | 21 |
| 21 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.2 | 7.2 | 1.1 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 6 | 11 | 18 |
| 22 | 1.2 | 2.4 | 3.2 | 4.1 | 5.1 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.2 | 7.1 | 8.1 | 9.3 | 10.4 | 5 | 11 | 23 |
| 23 | 1.4 | 2.4 | 3.2 | 4.1 | 5.2 | 6.1 | 7.1 | 1.2 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.2 | 8.2 | 9.3 | 10.4 | 8 | 11 | 18 |
| 24 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.1 | 5.1 | 6.1 | 7.2 | 8.1 | 9.3 | 10.4 | 5 | 11 | 19 |
| 25 | 1.1 | 2.4 | 3.2 | 4.1 | 5.2 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 9 | 11 | 24 |
| 26 | 1.2 | 2.4 | 3.2 | 4.1 | 5.1 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 0 | 11 | 24 |
| 27 | 1.2 | 2.4 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 1.1 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 6 | 11 | 23 |
| 28 | 1.2 | 2.4 | 3.2 | 4.2 | 5.1 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 4 | 11 | 25 |
| 29 | 1.2 | 2.3 | 3.2 | 4.2 | 5.1 | 6.2 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 4 | 11 | 25 |
| 30 | 1.2 | 2.2 | 3.1 | 4.1 | 5.2 | 6.2 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.2 | 8.1 | 9.3 | 10.4 | 8 | 11 | 22 |

# EXPERIMENTAL GROUP

| EG | DEMOGRAPHIC VARIABLES | | | | | | | OBSTETRIC VARIABLES | | | | | | | | | | BFA | KNOWLEDGE LEVEL | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AGE | EDN | OCC | REL | MI | TOF | AOF | GRAVIDA | PARITY | AV | MD | MOD | SEX | BW | | APG | SED | | PRE TEST | POST TEST | |
| 1 | 1.2 | 2.5 | 3.1 | 4.2 | 5.2 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 10 | 24 | 56 |
| 2 | 1.3 | 2.4 | 3.2 | 4.1 | 5.3 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 9 | 9 | 24 | 51 |
| 3 | 1.4 | 2.5 | 3.1 | 4.1 | 5.4 | 6.2 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 7 | 13 | 24 | 55 |
| 4 | 1.2 | 2.4 | 3.2 | 4.1 | 5.3 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 8 | 14 | 23 | 47 |
| 5 | 1.1 | 2.5 | 3.1 | 4.3 | 5.3 | 6.2 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 6 | 10 | 23 | 53 |
| 6 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 9 | 22 | 54 |
| 7 | 1.4 | 2.5 | 3.2 | 4.1 | 5.4 | 6.2 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.2 | 9.3 | 10.4 | 8 | 12 | 23 | 52 |
| 8 | 1.3 | 2.3 | 3.2 | 4.1 | 5.2 | 6.1 | 7.2 | 1.2 | 2.1 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 7 | 8 | 20 | 54 |
| 9 | 1.3 | 2.4 | 3.2 | 4.1 | 5.3 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 15 | 21 | 52 |
| 10 | 1.3 | 2.5 | 3.1 | 4.1 | 5.3 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.3 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 8 | 12 | 23 | 54 |
| 11 | 1.3 | 2.3 | 3.2 | 4.1 | 5.2 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 8 | 22 | 58 |
| 12 | 1.2 | 2.4 | 3.2 | 4.1 | 5.2 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 12 | 24 | 49 |
| 13 | 1.1 | 2.4 | 3.2 | 4.1 | 5.3 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 8 | 6 | 20 | 45 |
| 14 | 1.2 | 2.5 | 3.2 | 4.1 | 5.3 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 9 | 12 | 23 | 50 |
| 15 | 1.2 | 2.4 | 3.2 | 4.3 | 5.3 | 6.2 | 7.1 | 1.1 | 2.1 | 3.1 | 4.2 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 7 | 9 | 22 | 49 |
| 16 | 1.3 | 2.4 | 3.2 | 4.3 | 5.4 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.1 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 7 | 14 | 22 | 60 |
| 17 | 1.3 | 2.5 | 3.1 | 4.1 | 5.3 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 5 | 9 | 22 | 45 |
| 18 | 1.3 | 2.5 | 3.1 | 4.1 | 5.3 | 6.2 | 7.1 | 1.1 | 2.1 | 3.1 | 4.3 | 5.2 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 7 | 11 | 22 | 55 |
| 19 | 1.3 | 2.5 | 3.2 | 4.2 | 5.3 | 6.2 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 8 | 12 | 23 | 50 |
| 20 | 1.3 | 2.5 | 3.1 | 4.1 | 5.3 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.2 | 9.3 | 10.4 | 8 | 9 | 22 | 55 |
| 21 | 1.3 | 2.5 | 3.1 | 4.1 | 5.4 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 9 | 11 | 22 | 57 |
| 22 | 1.2 | 2.4 | 3.2 | 4.1 | 5.4 | 6.2 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.2 | 9.3 | 10.4 | 8 | 10 | 24 | 56 |
| 23 | 1.2 | 2.4 | 3.2 | 4.2 | 5.3 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.3 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 8 | 13 | 23 | 56 |
| 24 | 1.2 | 2.3 | 3.2 | 4.2 | 5.3 | 6.1 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 9 | 12 | 23 | 55 |
| 25 | 1.3 | 2.2 | 3.2 | 4.2 | 5.2 | 6.1 | 7.1 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 7 | 14 | 23 | 56 |
| 26 | 1.3 | 2.4 | 3.2 | 4.2 | 5.3 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 13 | 23 | 57 |
| 27 | 1.3 | 2.4 | 3.2 | 4.1 | 5.3 | 6.1 | 7.2 | 1.2 | 2.2 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 9 | 13 | 22 | 54 |
| 28 | 1.2 | 2.5 | 3.2 | 4.1 | 5.2 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 8 | 10 | 23 | 47 |
| 29 | 1.3 | 2.5 | 3.2 | 4.1 | 5.2 | 6.2 | 7.2 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.2 | 7.2 | 8.1 | 9.3 | 10.4 | 9 | 10 | 23 | 55 |
| 30 | 1.2 | 2.2 | 3.2 | 4.1 | 5.2 | 6.1 | 7.1 | 1.1 | 2.1 | 3.1 | 4.4 | 5.1 | 6.1 | 7.1 | 8.1 | 9.3 | 10.4 | 8 | 13 | 24 | 55 |

## APPENDIX – XVIII

## PHOTOGRAPHS DURING BREAST CRAWL TECHNIQUE